MAY 27, 1933

Railway Age

Founded In 1856

GENEVA COLLEGE LIBRARY,
No.
BEAVER FALLS PA

Car Loadings and General Business Break Through 1932 Levels

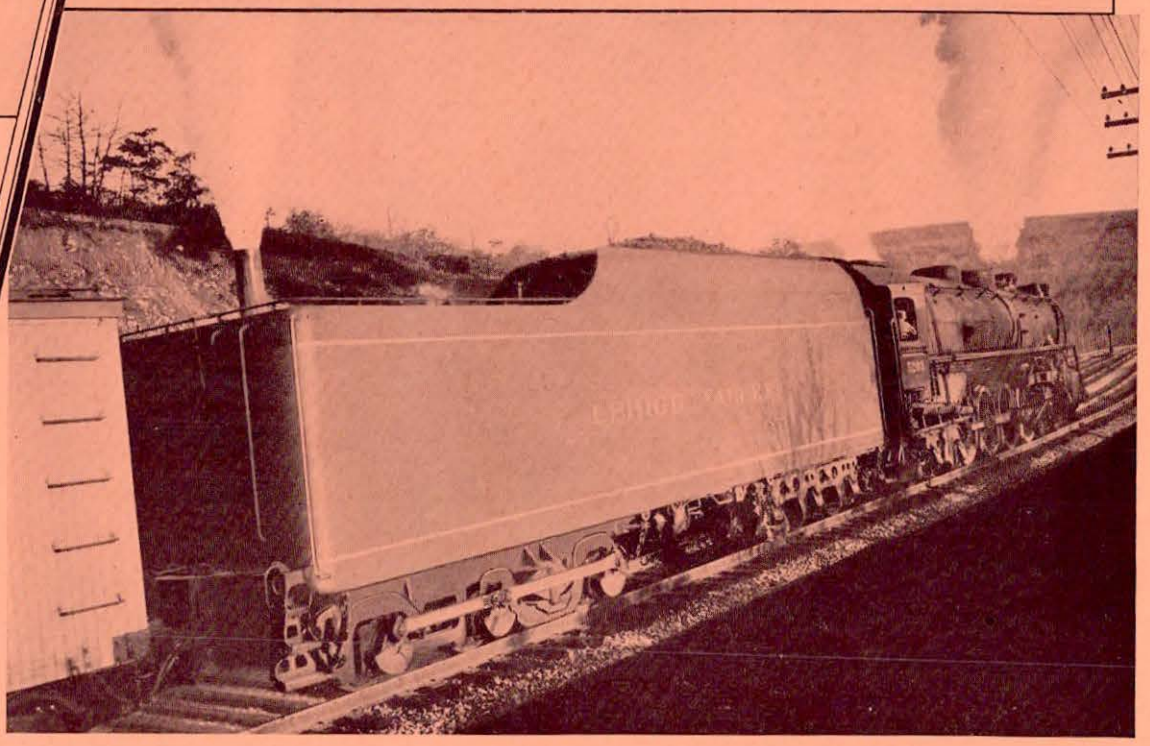
"A development of major interest and significance occurred when statistics were made public on May 20 showing conclusively that in the week that ended on May 13 the total volume of production and commerce in the United States was greater than in the corresponding week of the preceding year for the first time since October, 1929. The two principal measures of actual production and commerce are electric power production and railway freight car loadings. In the week that ended on May 13, 1933, electric power production was 2.2 per cent greater and freight car loadings were 2.6 per cent greater than in the week that ended on May 14, 1932. . .

"The substantial increase of over 30 per cent in loadings of carload freight which has resulted from the expansion of general business since the termination of the banking moratorium shows both that a revival has been occurring in all the country's basic industries, and that the railways are still relied upon as the great carriers of basic commodities. . .

"There are plenty of reasons for expecting that throughout the last two-thirds of 1933 the upward trend of general business and freight traffic will continue, and that the total freight business handled by the railways in 1933 will largely exceed that handled in 1932. One of the strongest of these is that, as already said, the business of 1933 has finally begun to exceed that of 1932, not because of any sudden changes due to inflation or other artificial influences, but to a gradual improvement which first manifested itself more than eight months ago. . ."

The above statements are quoted from the leading editorial in this issue entitled, "Business Crosses the Line of 1932".

A "Low-Gear" for the high-wheel engine



FOR starting, and for any condition necessitating high power at low speed, the automobile is equipped with a low gear.

By providing the extra cylinder capacity needed to apply the full power of the boiler to the drawbar at low speed, the Bethlehem Auxiliary Locomotive supplies the equivalent of a low gear for the high-wheel engine. It makes available a reserve of 10,000 to 18,000 pounds of extra tractive force, greatly increasing the flexibility of the engine, and making it a much more effective power unit.

The Auxiliary-equipped high-wheel engine can be used in either slow-freight, fast-freight or passenger service. It can put its shoulder to the wheel and drag a long freight train up a heavy grade just as well as it can operate at passenger-train speeds on the level.

It can start, without undue strain on draft-gear, trains heavy enough to utilize fully its tremendous power at road speeds. Ruling grades lose much of their dominating influence on loadings. Helper service, with its attendant standby losses, is cut down or eliminated. Wear and tear on equipment is reduced.

The aggregate of these economies, gained by applying the Auxiliary to the high-wheel engine, is impressive.

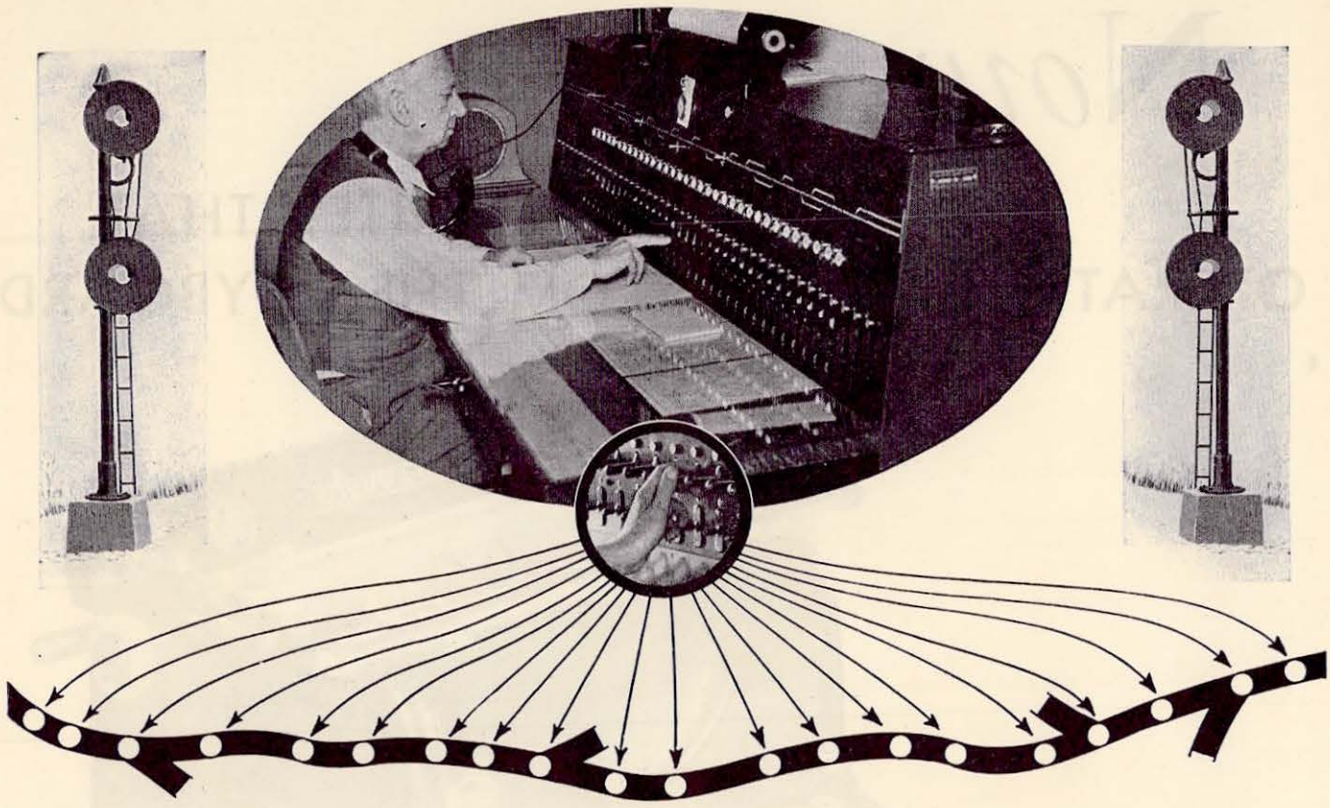
BETHLEHEM STEEL COMPANY

GENERAL OFFICES: BETHLEHEM, PA.

BETHLEHEM STEEL

BETHLEHEM AUXILIARY LOCOMOTIVE

Published weekly by Simmons-Boardman Publishing Company, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879.



How You Can Reduce Operating Expenses and Increase Traffic Capacity with Centralized Traffic Control

Dispatcher directs all train movements by signal indications which are displayed in a fraction of a second. This means great facility and flexibility of operation also elimination of delays. In emergency, or otherwise, dispatcher can stop a train at any passing siding.

Time-table superiority and train orders are abolished also clearance time at meeting and passing points. This eliminates many costly delays incidental to train orders and superiority. Closer meets and passes (with full protection) are possible without clearance time.

Train stops at passing-siding switches are eliminated as the switches are thrown electrically. On one installation 70 per cent of meets were non-stop. This saves time and the considerable cost of stopping tonnage trains.

An instantaneous, automatic "OS" informs dispatcher of the passage of each train at every passing-siding switch. This means accurate dispatching.

The dual-control feature of the electric switch machine converts it into a ground-throw switch stand for manual operation. This facilitates switching movements at passing sidings when required.

Ample safety is assured by the automatic feature of all signals and by the electric locking of control circuits as in interlocking practice.

Now is the time to investigate the possibilities of Centralized Traffic Control on your railway. Our engineers are at your service without obligation.

GENERAL RAILWAY SIGNAL COMPANY

ROCHESTER, N. Y.

New York Chicago St. Louis A-1156

Affiliated Companies' Offices: Montreal London Paris Tokyo Madrid Melbourne Calcutta Buenos Aires

Now . . .

A TYPEWRITER THAT OPERATES *ENTIRELY* FROM THE KEYBOARD

HERE is the most important contribution to typewriter operation in more than a decade . . . a typewriter in which electricity saves the wasted energy and motion that make typing so tiring.

In this new typewriter the motor does all the heavy work—returning the carriage, spacing automatically to the next writing line, and shifting to capitals. The keyboard is standard. There is no new touch to learn. The lessening of fatigue results in increased production.

This new electric carriage typewriter is guaranteed by Burroughs. It is backed by the same Burroughs service organization that for years has serviced electrically-operated Burroughs machines in offices throughout the world.

Like all Burroughs Typewriters, this new machine is displayed in local Burroughs offices. Telephone today for a demonstration in your own office —or write for free illustrated, descriptive folder.

BURROUGHS ADDING MACHINE COMPANY, DETROIT, MICH.

BURROUGHS

Electric Carriage

TYPEWRITER

Published every Saturday by the Simmons-Boardman Publishing Company, 1309 Noble Street, Philadelphia, Pa., with executive offices at 30 Church Street, New York

SAMUEL O. DUNN, *Chairman of Board*
HENRY LEE, *President*
LUCIUS B. SHERMAN, *Vice-Pres.*
CECIL R. MILLS, *Vice-Pres.*
ROY V. WRIGHT, *Vice-Pres. and Sec.*
FREDERICK H. THOMPSON, *Vice-Pres.*
GEORGE SLATE, *Vice-Pres.*
ELMER T. HOWSON, *Vice-Pres.*
F. C. KOCH, *Vice-Pres.*
JOHN T. DEMOTT, *Treas.*

CHICAGO
105 West Adams St.

WASHINGTON
17th and H Streets, N. W.

CLEVELAND
Terminal Tower

SAN FRANCISCO
58 Main St.

Editorial Staff
SAMUEL O. DUNN, *Editor*
ROY V. WRIGHT, *Managing Editor*
ELMER T. HOWSON, *Western Editor*
H. F. LANE, *Washington Editor*

B. B. ADAMS
C. B. PECK
W. S. LACHER
ALFRED G. OEHLER
F. W. KRAEGER
E. L. WOODWARD
J. G. LYNE
J. H. DUNN
D. A. STEEL
R. A. DOSTER
JOHN C. EMERY
H. C. WILCOX
NEAL D. HOWARD
CHARLES LAYNG
GEORGE E. BOYD
WALTER J. TAFT
M. H. DICK
S. R. HAMILTON

The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.).

Subscriptions, including 52 regular weekly issues, payable in advance and postage free; United States and possessions, 1 year $6.00, 2 years $10.00; Canada, including duty, 1 year $8.00, 2 years $14.00; foreign countries, 1 year $8.00, 2 years $14.00.

Single copies, 25 cents each.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 94 May 27, 1933 No. 21

In This Issue

Railroads an Important Feature at World's Fair..... Page 754

An article on the Century of Progress Exposition at Chicago with its exhibits depicting developments of railways and railway supply manufacturers during the past 100 years.

Union Pacific Plans High-Speed Streamlined Train..... 761

A description of this three-coach, 80-ton articulated unit which, driven by a 600-hp. distillate-electric power plant, will be capable of making 110 miles per hour.

Central Vermont Co-ordinated Service An Effective Traffic Developer..... 775

Tells of operations, involving rail, highway and water transport, which have brought l. c. l. traffic at certain points back to 1928-29 levels.

EDITORIALS

Business Crosses the Line of 1932..... 751
Limitations on Free Door-Delivery Service..... 752
Delay May Be Serious..... 753

GENERAL ARTICLES

Railroads an Important Feature at World's Fair..... 754
New Loans Proposed For Equipment and Maintenance..... 760
Union Pacific Plans High-Speed Streamlined Train..... 761
Freight Car Loading Exceeds That For Last Year..... 762
Emergency Railroad Bill Amended To Prevent Dismissals..... 763
I. C. C. Views on What Traffic Will Bear..... 767
What the Buyer of Ties Expects from the Seller, by D. C. Curtis..... 768
New Locomotive Steam Pipe Casing..... 770
N. E. L. A. Electrification Report..... 770
Alton Replaces Crossing Flagmen With Signals..... 771

MOTOR TRANSPORT SECTION

Railroad Annual Reports Review Motor Transport Operations..... 772
Central Vermont Co-ordinated Service An Effective Traffic Developer..... 775

NEWS..... 777

OPERATING STATISTICS OF LARGE STEAM RAILWAYS..... 778

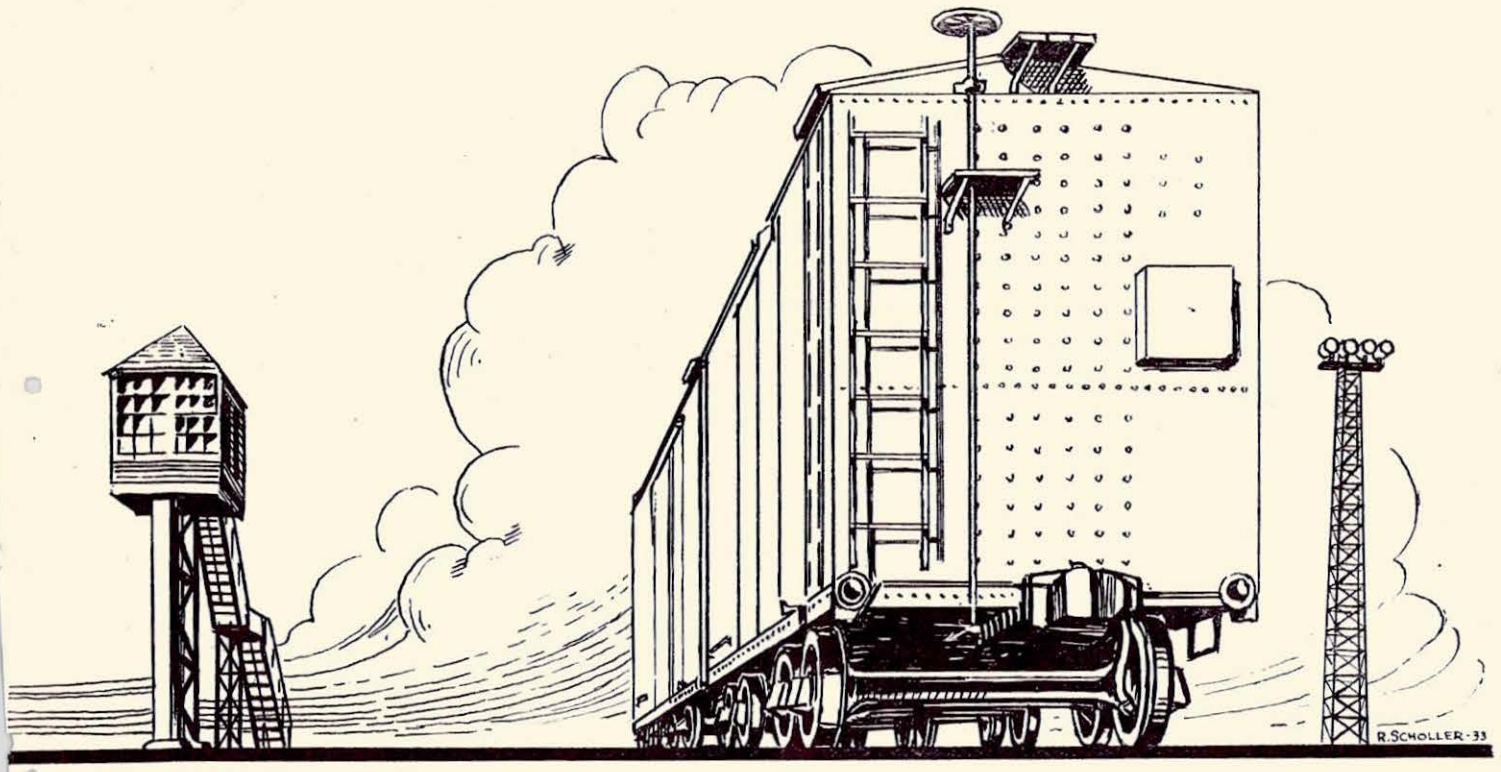
The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

"UNION" E.P. CAR RETARDERS ON 12 RAILROADS & 5 INDUSTRIALS

1881 1933

DISTRICT OFFICES

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO



EVEN DURING PERIODS OF LIGHT TRAFFIC -

experience has proved Car Retarders are Self-Liquidating.

WHETHER car retarders effect enough savings during periods of light traffic to justify their operation and, if so, whether the saving will be large enough to meet the interest on the investment for their installation, has been answered in the affirmative by experience.

As one example, a study of the C. C. C. & St. L. Sharonville classification yard showed that if the "Union" Electro-Pneumatic Car Retarders had been out of service during several recent low traffic months, full time operation would have been required with riders, while with retarders the work was done in two split tricks. Even with the light traffic, the saving with the retarders was approximately $17,500 annually.

They expedited classification, resulting in a further saving of over $7,000. Reduction in per diem costs, car damages and personal injury claims saved at least $3,500 more. Or a total saving under existing conditions of $28,000!*

This experience has been repeated wherever "Union" Car Retarders are installed.

It is evident from the above that the "Union" Retarder is a facility that will earn an attractive return in normal times and pay its way under such abnormal conditions as now prevailing.

Our nearest district office will be glad to cooperate in estimating the savings to be effected by "Union" Car Retarders.

* Quotations from Railway Age and Railway Signaling.

Union Switch & Signal Co.

SWISSVALE, PA.

PAVING THE WAY

Steel production has more than doubled within the past few months, and with it the price of scrap has advanced sharply.

During May a single Class 1 railroad sold 260,000 tons of scrap, involving the dismantling of 15,000 obsolete cars and 400 obsolete locomotives.

Getting rid of the expense of carrying obsolete equipment paves the way for your next purchase of modern locomotives: and

It takes Modern Locomotives to make money these days!

THE BALDWIN LOCOMOTIVE WORKS

PHILADELPHIA

ARMCO METAL *Cribbing* invades Retaining Wall Field

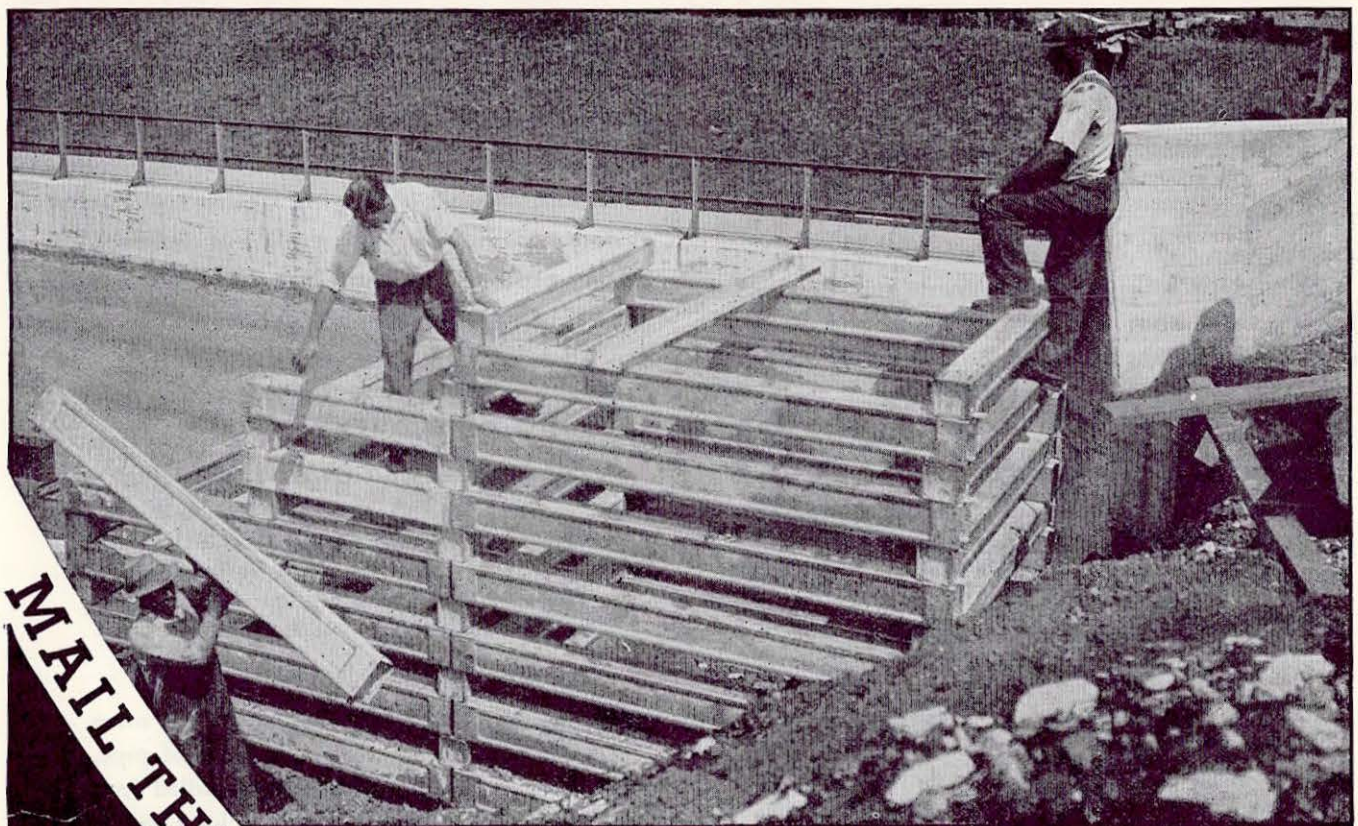
THE real need for this new type of crib wall is definitely pointed out by failures of other types in use. Weaknesses such as cracking, spalling and disintegration are often observed under ordinary service.

Armco Metal Cribbing, a scientific development, modern and practical in every respect, is particularly adaptable for highway and railway retaining walls, bridge wingwalls, railway embankments, loading platforms and river and harbor bank protection work.

Investigate its superiority point by point. Its tremendous strength is indicated by tests far beyond the extremes of ordinary service.

Durability of the metal is beyond question. Cribbing service is usually less severe than culvert service and Armco Ingot Iron has an unequaled culvert record of 27 years to date.

Details of construction and other advantages are fully explained in a manual which has recently been prepared. Ask the Armco man to show you a copy. Use the coupon.



MAIL THE COUPON

Armco Cribbing is built up in standard formed sections and designed for quick, sturdy assembly. One man can handle the units.

Gentlemen: ☐ Send more data on Armco Metal Cribbing. ☐ Show me the Armco Metal Cribbing Manual. I am interested in a crib wall approximately____ long by____ high.

Name____ Title____

Road____

Address____ City____

RA 5-27

INGOT IRON RAILWAY PRODUCTS COMPANY

Middletown, Ohio **Berkeley, Calif.**

(Member of the Armco Culvert Mfrs. Assn.)

Philadelphia St. Louis Salt Lake City Los Angeles Minneapolis Houston Portland Atlanta Denver Chicago Dallas El Paso Spokane

Big jobs are for the capable . . . whether you're considering men or pipe.

YOU...and NATURE...make these conditions — we make the pipe that fits them

Nobody's enthusiasm — nobody's guess — means much in picking the right pipe for the right job. You've got to determine the *condition* under which that pipe must serve—and then pick the pipe that meets those conditions best.

In certain railroad uses, generations of service have proved that ONE pipe — and one alone — successfully meets *all* the conditions that you and Nature have imposed. That pipe is Reading Puddled Iron Pipe — unique in its resistance to strain and vibration, capable of defying destructive corrosion as does no other ferrous metal. For ordinary installations, ordinary pipe may do—but take no chances with substitute pipe when you need READING dependability, safety and economy.

Here Are the Places Where Reading Pipe Serves Best

- *For Roundhouse Pipe*

  When exposed to smoke or other agents of atmospheric corrosion, Reading Puddled Iron Pipe forms a hard, impervious film of iron oxide which effectively prevents destructive pitting and penetration.

- *For Locomotive Pipe*

  Safety and freedom from breakdowns demand pipe that resists BOTH corrosion and vibration. Since 1848, Reading Puddled Iron Pipe has defied these conditions as does no other pipe because of its *fibrous* structure, and the hundreds of thousands of protective siliceous filaments uniformly distributed throughout the pure iron.

- *For Stations and Other Buildings*

  Reading Puddled Iron Pipe has a *proved record* in hundreds of instances of outlasting the building in which it is installed. That means enduring economy—continuing freedom from repair and replacement costs.

- *For Drains*

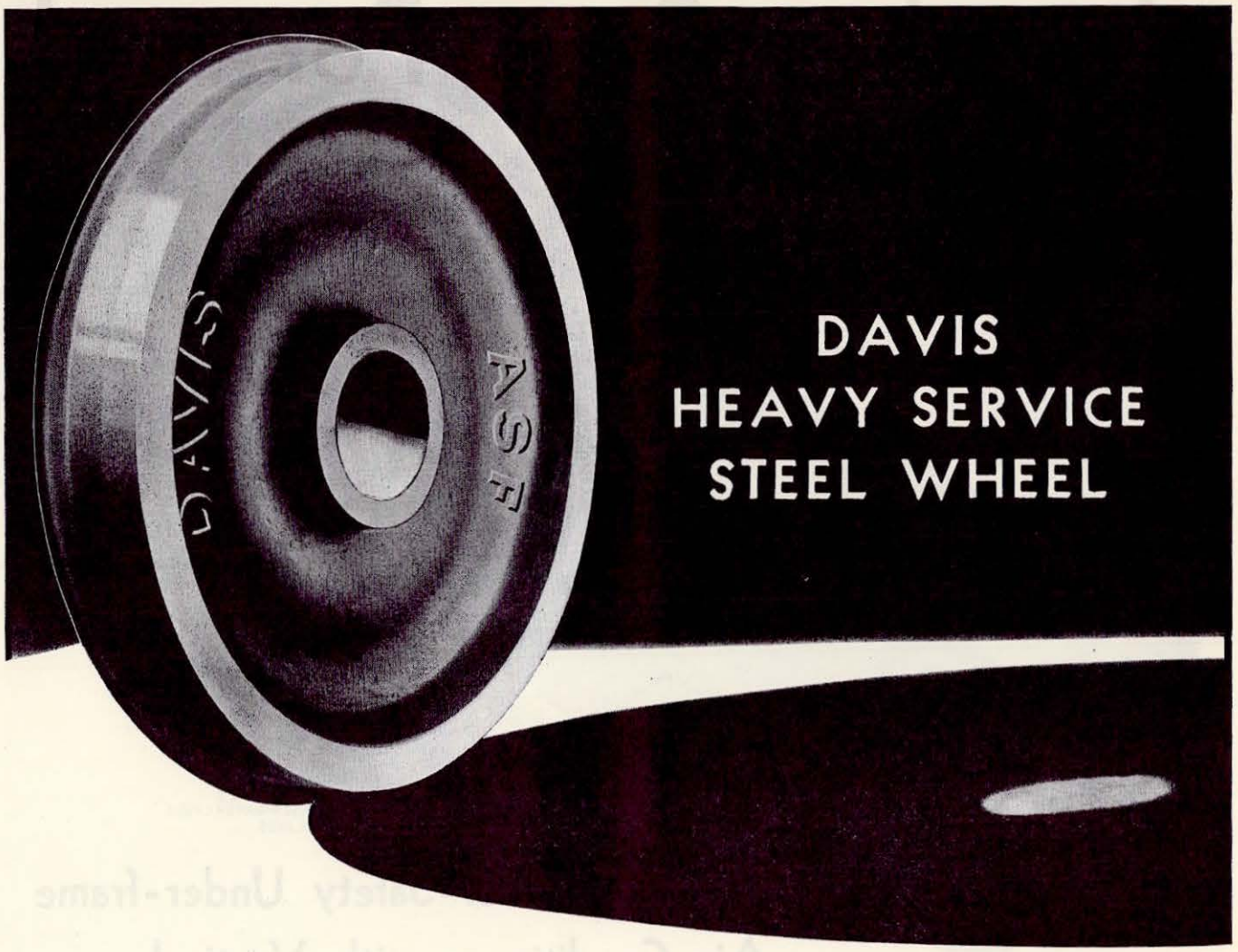
  Alternating wet and dry conditions often mean swift death for most kinds of pipe. Reading galvanized Standard Puddled Iron Pipe is especially adapted to give long service under such conditions. For underground drains, Reading Galvanized Extra Heavy Puddled Iron Pipe is recommended.

READING PUDDLED IRON

SINCE 1848

READING IRON COMPANY PHILADELPHIA

Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Iron



A wheel made of special composition metal and heat treated to produce a hard, tough, high tensile, wear-resisting tread, that will carry heavy loads and withstand severe brake applications without developing brake burns or shellouts.

A wheel that has sufficient thickness of metal in the rim to permit several wears.

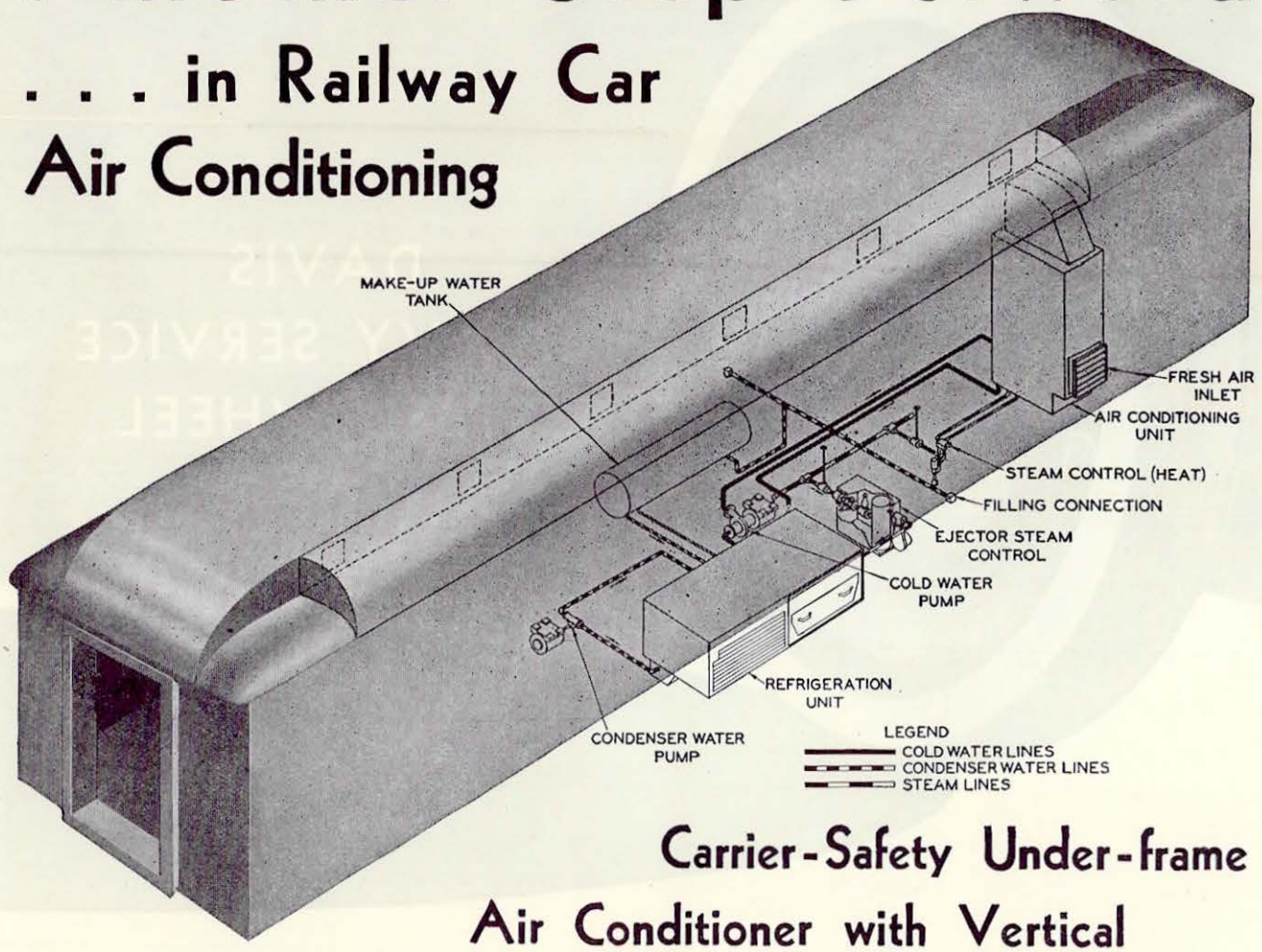
A wheel that will deliver dependable service under high speed locomotive tenders and passenger cars at a low cost per thousand miles.

AMERICAN STEEL FOUNDRIES

NEW YORK CHICAGO ST. LOUIS

Another Step Forward

. . . in Railway Car Air Conditioning



Carrier-Safety Under-frame Air Conditioner with Vertical Air Conditioning Unit.

This compact, efficient steam ejector Air Conditioning apparatus is supported, with the exception of the Air Conditioning Unit, from the car underframe.

The Air Conditioning Unit stands on the car floor in any convenient location, the air passing thru in a vertical direction.

This type of equipment accomplishes savings by its lesser weight and by the comparative ease of application thru the elimination of roof hatches. Its use insures low maintenance cost by the substitution, for the power driven compressor, of a device having no moving parts, which will operate indefinitely without mechanical wear, and which uses steam direct from the train line. Hazard and expense are also abolished by the use of water as a refrigerant.

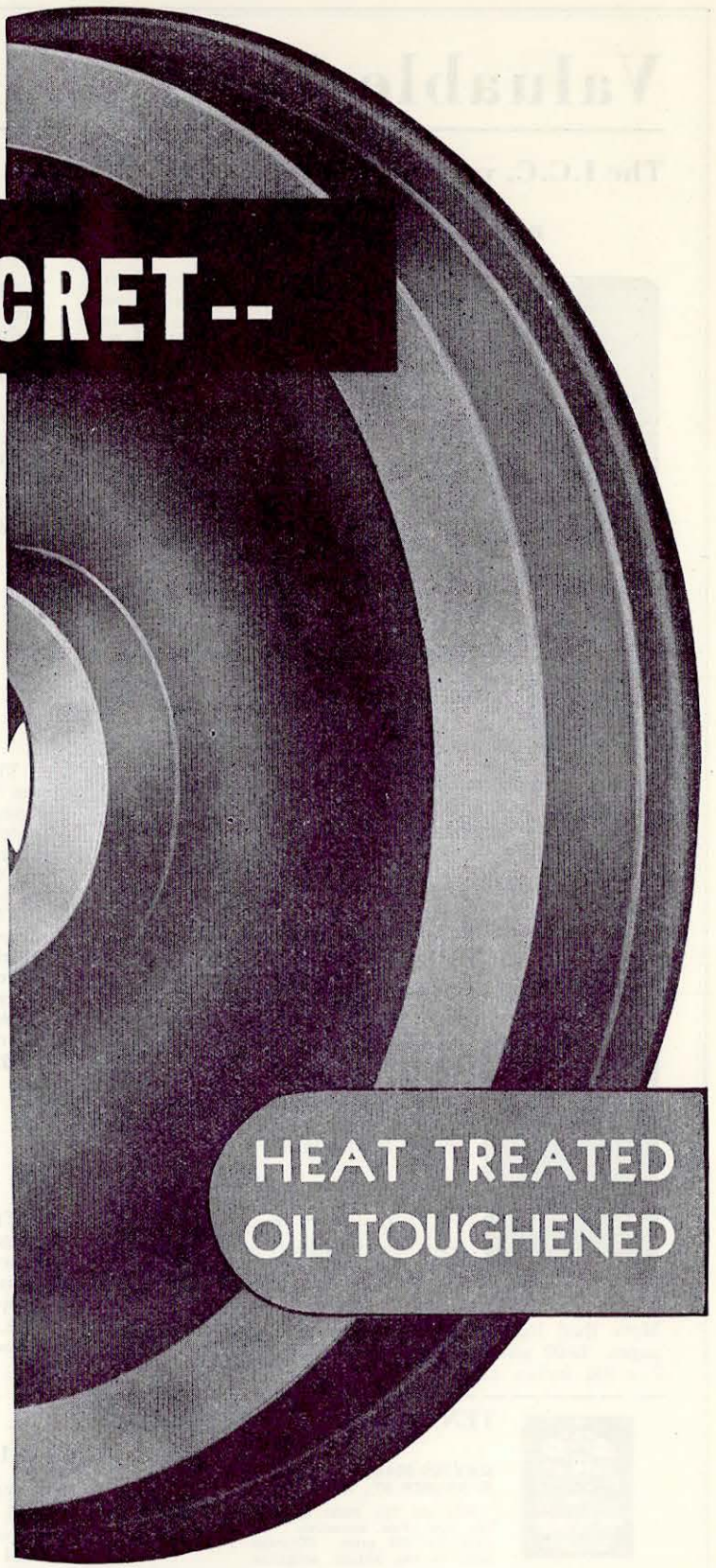
THE SAFETY CAR HEATING & LIGHTING CO.

NEW YORK CHICAGO ST. LOUIS BOSTON
PHILADELPHIA SAN FRANCISCO MONTREAL

IT'S NO SECRET--

this long-wearing low-cost mileage

YOU get more than multiple-wear steel wheels when you equip with Armco *Heat-Treated* Wheels. Our special processing sees to that. First we roll the wheels from sound, pre-tested steel. Then each wheel is carefully heated to a uniform temperature and quenched, making it hard and tough, long-wearing. This accounts in part for the remarkably high yield and great tensile strength of Armco *Heat-Treated* Wheels, qualities that mean dollars-and-cents economy to you. You will want to give them a trial. Just outline your wheel requirements to our nearest office.



THE ARMCO RAILROAD SALES CO.

Subsidiary of
The American Rolling Mill Company

Executive Offices: Middletown, Ohio

DISTRICT OFFICES: Chicago . Cleveland . New York
Philadelphia . St. Louis . San Francisco

ARMCO
WHEELS • SHEETS • PLATES
for *thrifty* railroads

Valuable Books for Your Library

The I.C.C. vs. Class I Railroads of the United States

By **HORATIO L. WHITRIDGE**

This complete and accurate short analysis of the railroad situation was written by a securities expert with the aid of a research staff. It clarifies a complicated problem which is now before Congress and offers a constructive plan for rescuing the railroads from many I. C. C. restrictions so as to insure their future financial prosperity under private ownership.

9 x 12 inches, 174 pages, paper binding, $1.00

Interstate Commerce Commission's Consolidation Plan

Twenty-one separate maps, drawn to the same scale, printed for ready comparisons on one sheet, depict the grouping of some 1300 railroads into 21 systems as approved by the Interstate Commerce Commission on December 9, 1929.

44 x 35 inches, on heavy paper, $.25

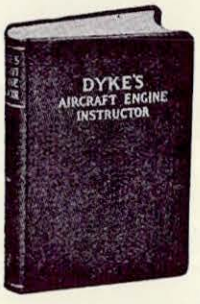
Four System Plan for Eastern Railways

Submitted to the Interstate Commerce Commission on October 3, 1931, with an application for a modification of the commission's consolidation plan of December 9, 1929.

12 x 24 inches, on heavy paper, $.15

Automobile and Gasoline Engine Encyclopedia

By **A. L. DYKE**



Dyke's *Automobile and Gasoline Engine Encyclopedia* has been the standard authority on automobiles for the past 20 years. It has gone through many editions and sold into the hundred thousands until it has become known as the World's Greatest Auto Book.

The new Sixteenth Edition covers all cars, trucks and tractors, mechanical and electrical. Their adjustments, tests, specifications, parts, equipment and accessories are clearly described. Trouble shooting charts in colors are a special feature among the thousands of illustrations. More than 16,000 subjects are listed in the index, 1,471 pages, 4,600 pictures, plans, diagrams and color charts, 7 x 9¾ inches, cloth. (Nop.) $6.00.

TEN DAY FREE EXAMINATION COUPON

SIMMONS-BOARDMAN PUBLISHING CO.
30 CHURCH ST., NEW YORK.

Send me the books checked below, prepaid, for ten days' free inspection. If satisfactory I will remit the list price. Otherwise I will return the books to you without obligation.

( ) **I. C. C. vs. Class I Railroads,** $1.00
( ) Dyke's Automobile Encyclopedia, $6.00
( ) **I. C. C. Consolidation Map, $.25**
( ) **Four System Map for Eastern R. R. $.15**
( ) Regulation of Railroad Finance, $3.50
( ) Analysis of Railroad Operations, $4.00
( ) Railway Accounting Procedure, $3.00
( ) Who's Who in Railroading, $3.00

Name .....
Address .....
City ..... State .....
Company ..... Position .....
(This offer is limited to the United States and Canada) R.A 5-27-33

Analysis of Railroad Operations

By **J. L. WHITE**

Formerly Assistant Comptroller, United States Railroad Administration; now Vice-President, Irving Investors' Management Company, Inc.

This standard work describes how figures produced in accounting departments should be used in the study of railroad operating results. A four page sample work-sheet is furnished for setting down basic statistics and significant averages of a railroad over a given period. The author shows how these figures reflect the various activities of a railroad, the operating efficiency of the road as a whole or of any of its departments. Classifications of the Interstate Commerce Commission are given in full in the appendix and frequent and detailed references are made to it in the text.

391 pages, forms, index, work-sheet, 6 x 9 inches, cloth, $4.00

Regulation of Railroad Finance

By **JOHN H. FREDERICK, Ph. D.**
FRANK T. HYPPS, Ph. D.
and JAMES M. HERRING, Ph. D.

Wharton School of Finance and Commerce
University of Pennsylvania

The regulation of the financial affairs of railroads by the Federal government through the Interstate Commerce Commission, under the Transportation Act of 1920, is herein clearly explained. Various tests applied by the Commission in determining the elements of public interest to which the statute usually refers are traced, together with the nature and reasons for the Commission's action.

The granting of certificates of public convenience and necessity for the construction and abandonment of railroads, the regulation of unification through acquisition of control of one carrier by another, the regulation of interlocking directorates and the issuance of the various types of railroad securities are expertly examined. Accounting practices are touched upon.

237 pages, tables, index, 6 x 9 inches, cloth, $3.50

Railway Accounting Procedure

***Edited by* E. R. WOODSON**

Secretary, Railway Accounting Officers Association

The official manual of the R. A. O. A. contains the mandatory and recommended rules, forms and standard practice of American railway accounting. The new edition in loose leaf form is kept up to date by yearly supplements.

1,002 pages, 7 x 9½ inches, loose leaf binder, $5.00. Now only $3.00.

Who's Who in Railroading

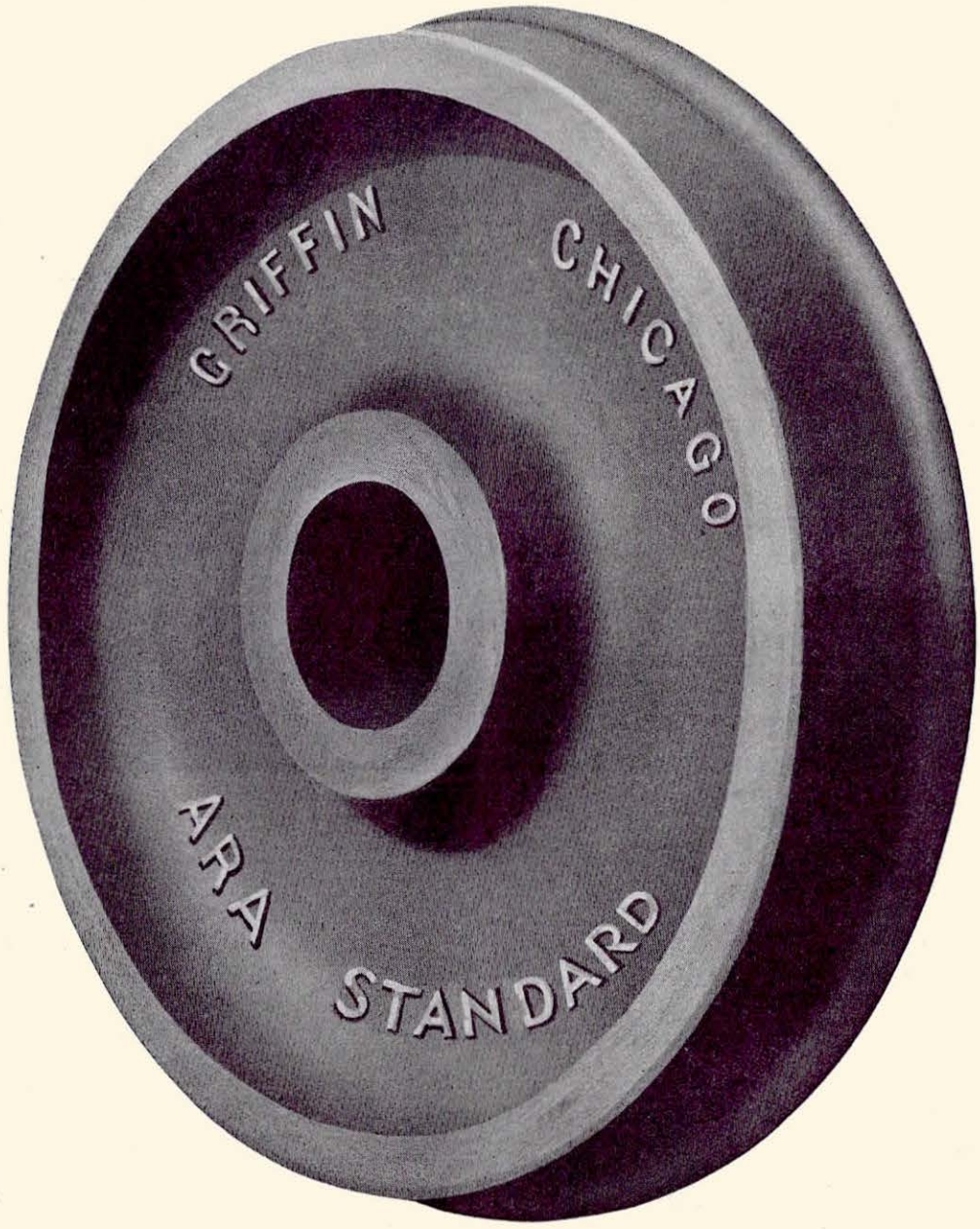
United States—Canada—Mexico—Cu

The new Edition of what was formerly the "Biographical Directory of Railway Officials of America" is based upon a complete resurvey of the field by means of original questionnaires. Biographical sketches of some 4,000 railroad officials, equipment manufacturers, economists, members of regulatory commissions and others whose work is directly connected with the railroad industry of North America are presented.

The descriptions of these leaders of the rail industry include personal information such as their family connections and social, religious and political affiliations as well as a complete outline of their professional careers. Since 1885 this book has been recognized as the standard authority in the transportation field.

Ninth Edition, 579 pages, 6 x 9 x 1⅝ inches, $3.00

THE GRIFFIN UNIFORM CHILL PRODUCES A MAXIMUM UNIT OF SERVICE AT THE LOWEST COST



THE FOOD SUPPLY OF THE NATION IS CARRIED ON CHILLED TREAD WHEELS

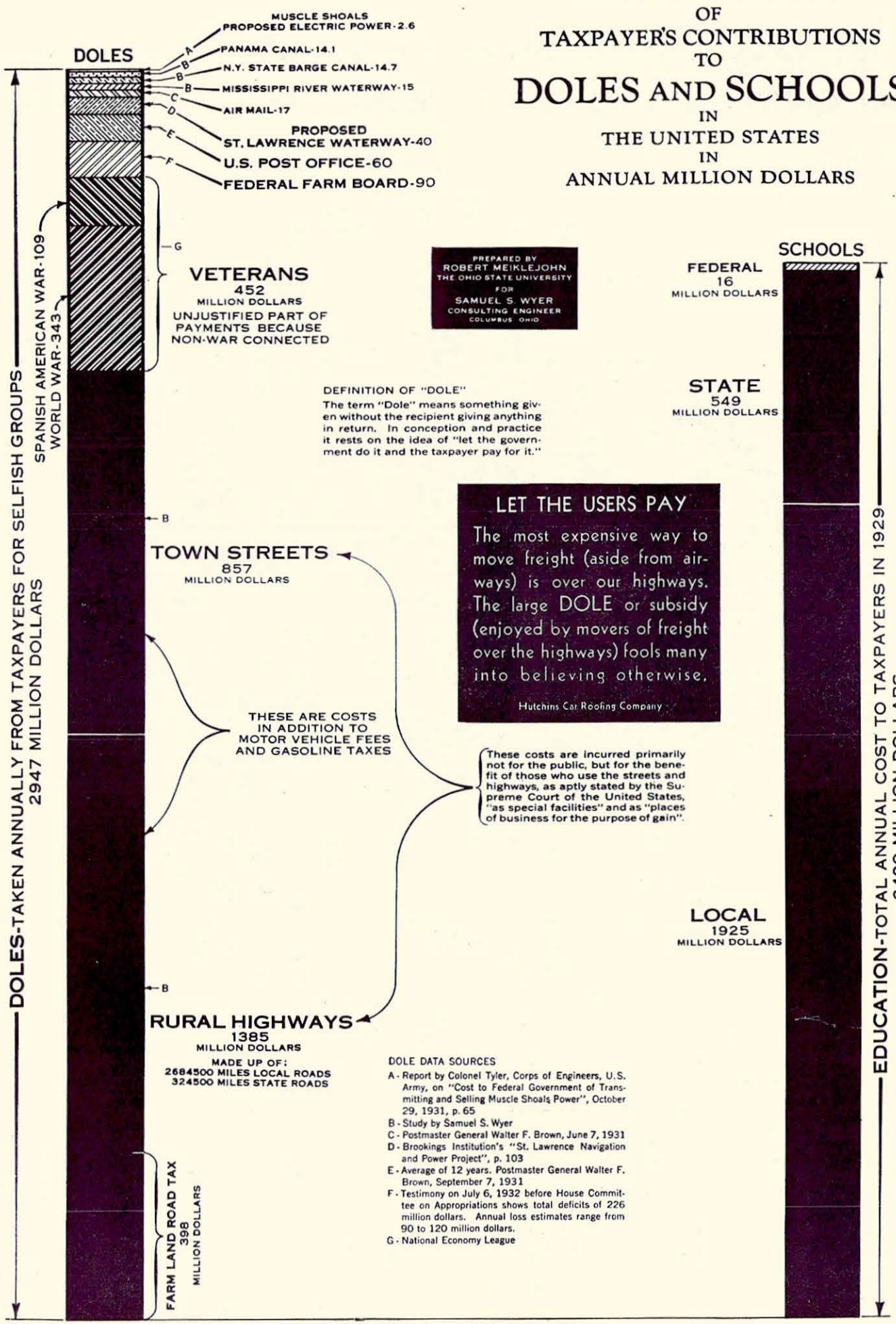
GRIFFIN WHEEL COMPANY

410 NORTH MICHIGAN AVENUE CHICAGO, ILLINOIS

Plants

Chicago	Boston	Cincinnati	Kansas City	Denver	Los Angeles
Detroit	Cleveland	St. Paul	Council Bluffs	Salt Lake City	Tacoma

COMPARISON OF TAXPAYER'S CONTRIBUTIONS TO DOLES AND SCHOOLS IN THE UNITED STATES IN ANNUAL MILLION DOLLARS


DOLES
MUSCLE SHOALS PROPOSED ELECTRIC POWER-2.6
A
PANAMA CANAL-14.1
B
N.Y. STATE BARGE CANAL-14.7
B
MISSISSIPPI RIVER WATERWAY-15
B
AIR MAIL-17
C
PROPOSED ST. LAWRENCE WATERWAY-40
D
U.S. POST OFFICE-60
E
FEDERAL FARM BOARD-90
F
SPANISH AMERICAN WAR-109
WORLD WAR-343
G
VETERANS
452
MILLION DOLLARS
UNJUSTIFIED PART OF PAYMENTS BECAUSE NON-WAR CONNECTED
PREPARED BY ROBERT MEIKLEJOHN THE OHIO STATE UNIVERSITY FOR SAMUEL S. WYER CONSULTING ENGINEER COLUMBUS OHIO
SCHOOLS
FEDERAL
16
MILLION DOLLARS
STATE
549
MILLION DOLLARS
DEFINITION OF "DOLE"
The term "Dole" means something given without the recipient giving anything in return. In conception and practice it rests on the idea of "let the government do it and the taxpayer pay for it."
LET THE USERS PAY
The most expensive way to move freight (aside from airways) is over our highways. The large DOLE or subsidy (enjoyed by movers of freight over the highways) fools many into believing otherwise.
Hutchins Car Roofing Company
B
TOWN STREETS
857
MILLION DOLLARS
THESE ARE COSTS IN ADDITION TO MOTOR VEHICLE FEES AND GASOLINE TAXES
These costs are incurred primarily not for the public, but for the benefit of those who use the streets and highways, as aptly stated by the Supreme Court of the United States, "as special facilities" and as "places of business for the purpose of gain".
LOCAL
1925
MILLION DOLLARS
B
RURAL HIGHWAYS
1385
MILLION DOLLARS
MADE UP OF:
2684500 MILES LOCAL ROADS
324500 MILES STATE ROADS
FARM LAND ROAD TAX
398
MILLION DOLLARS
DOLES-TAKEN ANNUALLY FROM TAXPAYERS FOR SELFISH GROUPS
2947 MILLION DOLLARS
EDUCATION-TOTAL ANNUAL COST TO TAXPAYERS IN 1929
2490 MILLION DOLLARS
DATA FROM NATIONAL INDUSTRIAL CONFERENCE BOARD

DOLE DATA SOURCES

A - Report by Colonel Tyler, Corps of Engineers, U.S. Army, on "Cost to Federal Government of Transmitting and Selling Muscle Shoals Power", October 29, 1931, p. 65

B - Study by Samuel S. Wyer

C - Postmaster General Walter F. Brown, June 7, 1931

D - Brookings Institution's "St. Lawrence Navigation and Power Project", p. 103

E - Average of 12 years. Postmaster General Walter F. Brown, September 7, 1931

F - Testimony on July 6, 1932 before House Committee on Appropriations shows total deficits of 226 million dollars. Annual loss estimates range from 90 to 120 million dollars.

G - National Economy League

Business Crosses the Line of 1932

A development of major interest and significance occurred when statistics were made public on May 20 showing conclusively that in the week that ended on May 13 the total volume of production and commerce in the United States was greater than in the corresponding week of the preceding year for the first time since October, 1929. The two principal measures of actual production and commerce are electric power production and railway freight car loadings. In the week that ended on May 13, 1933, electric power production was 2.2 per cent greater and freight car loadings were 2.6 per cent greater than in the week that ended on May 14, 1932.

The downward trend of freight car loadings that prevailed from October, 1929, until the end of the summer of 1932, was succeeded by an upward trend which began in September, 1932, but this upward trend was interrupted by the banking moratorium in March and had to prevail for more than eight months before it finally pushed the weekly loadings of 1933 over the line of 1932. The crossing of the line was not due to any sudden change in any industry, or in all industries, but to a gradual improvement in business in general, which, as already indicated, has been going on for months. After having shown an upward trend during the last one-third of 1932, loadings in January, 1933, were 15.8 per cent less than in 1932; in February, 12.8 per cent less; in March, when the banking moratorium occurred, 19.2 per cent less; in April, 9.7 per cent less; in the week ended May 6, 1.8 per cent less; and in the first two weeks of May, 0.3 per cent greater.

Loadings of Freight Cars

	Week ended May 13, 1933	Week ended May 14, 1932	Increase or Decrease	Per cent Increase or Decrease
Grain and Grain Products	38,947	28,526	+10,421	+36.5
Live Stock	17,441	17,074	+367	+2.1
Coal	81,046	73,543	+7,503	+10.2
Coke	3,728	3,009	+719	+23.8
Forest Products	20,024	18,797	+1,227	+6.5
Ore	6,724	2,593	+4,131	+159.3
Miscellaneous	198,811	192,563	+6,248	+3.2
TOTAL CARLOAD FREIGHT	366,721	336,105	+30,616	+9.1
Merchandise—L. C. L.	164,374	181,562	−17,188	−9.5
TOTAL ALL FREIGHT	531,095	517,667	+13,428	+2.6

Increased Shipments of Basic Commodities

The comparative figures regarding car loadings in the week that ended on May 13, 1933, and in the corresponding week of May, 1932, which are given in the table, show an increase in each of the seven large classes of carload freight, ranging from 2 per cent for live stock to 159 per cent for ore, and totalling 30,616 cars for all carload freight, or over 9 per cent. They also show a decline of 9½ per cent in l.c.l. freight. The decline in l.c.l. shipments no doubt was partly due to a recent tendency, because of the increasing size of orders, to substitute carload for less-than-carload shipments, but in larger measure to the diversion of l.c.l. freight from the railways to trucks. The substantial increase of over 30 per cent in loadings of carload freight which has resulted from the expansion of general business since the termination of the banking moratorium shows both that a revival has been occurring in all the country's basic industries, and that the railways are still relied upon as the great carriers of basic commodities. The difference between the trends of traffic that prevailed in the early parts of 1932 and of 1933 is illustrated by the fact that last year average weekly car loadings in the first two weeks of May were 7½ per cent *less* than average weekly loadings in January, while this year average weekly loadings in the first two weeks of May were 10½ per cent *greater* than in January.

Railway Experience in Past Depressions

There are plenty of reasons for expecting that throughout the last two-thirds of 1933 the upward trend of general business and freight traffic will continue, and that the total freight business handled by the railways in 1933 will largely exceed that handled in 1932. One of the strongest of these is that, as already said, the business of 1933 has finally begun to exceed that of 1932, not because of any sudden changes due to inflation or other artificial influences, but to a gradual improvement which first manifested itself more than eight months ago.

The longest depression which has occurred since complete statistics of the railways of the United States have been compiled was that during the nineties. The freight business of 1893 was not equalled until in 1896, and a big increase did not occur until in 1898, but in 1898 the freight business handled was 42 per cent greater than at the bottom of the depression in 1894, and 21 per cent greater than in the previous peak year of 1893. The maximum decline of freight business in the nineties was less than 15 per cent, while in 1921 the decline was 25 per cent—the greatest decline that ever occurred previous to the present depression but only relatively a little more than one-half as great as that which occurred between 1929 and 1932. In the depression of 1921-1922, the freight business of 1922

first exceeded that of 1921 in February, and average weekly loadings increased from 757,000 in February, 1922, to 978,200 in October, or about 30 per cent. Average loadings in the first two weeks of May, 1933, were only about 527,500, and an increase of 30 per cent would cause them to reach a peak in the fall of 1933 of only about 700,000 cars weekly.

Car Surpluses and Shortages in 1922

As to whether history will repeat itself this year, and, if so, as to whether it will repeat the history of the recovery from the depression of the nineties, or the recovery from the depression of 1921-1922, is, of course, purely conjectural. It seems worth while to recall, however, that as late as April, 1922, the railways reported a surplus of 372,000 freight cars, and that in October, only six months later, they reported a shortage of over 179,000 cars. This swift conversion of a car surplus into a car shortage was due, not to a lack of cars, but to the fact that, largely owing to the shop employees' strike in the latter part of 1922, so much equipment, both locomotives and cars, was in bad order.

The railways reported a car surplus of about 651,000 cars in the first two weeks of April, 1933, but now, as in 1922, nobody knows how many locomotives and cars actually are in bad order, because in every period of depression the amount of bad order equipment is understated, and probably never was so much understated as it is being now. The most reliable statistics available indicating the probable present condition of all railway facilities and the probable ability of the railways to cope with a large increase in traffic are those which show that their expenditures for improvements and maintenance in the three years ending with 1932 averaged $1,410,000,000 less annually than in the five year period ending with 1929, a reduction of 49 per cent. Never in all history were retrenchments made which remotely approached those of the last two years, and as very large increases in capital and maintenance expenditures were necessary following the comparatively short and mild depression of 1921-1922, it seems reasonable to assume that correspondingly large expenditures will be needed as traffic recovers from the effects of the present depression.

Government Money for Railways

The reasons why it would be more desirable for the government to advance a large amount of money to the railways to enable them to begin immediately to rehabilitate their properties than to spend it upon public works were presented in an editorial in the *Railway Age* of May 20. The public works bill now pending in Congress contains a provision empowering the President to advance money to the railroads "to aid in the financing of such railroad maintenance and equipment as may be approved by the Interstate Commerce Commission as desirable for the improvement of transportation facilities." Most railroads would decline to borrow government money and expend it upon maintenance if they would have to charge the expenditures to operating expenses faster than their gross earnings increased, because this would reduce or wipe out their net earnings, but it is understood that the Interstate Commerce Commission would be willing to authorize them to carry the expenditures in suspense accounts, and charge them to future operating expenses as gross earnings increased. Most railroads would hesitate to borrow and pay interest on money for maintenance work, because maintenance is an operating expense and interest is not properly an operating expense. The provisions of the so-called "public works bill" seem broad enough, however, to authorize the government to be more reasonable than heretofore with the railways regarding money borrowed for maintenance work.

Politics and Railway Legislation

The principal trouble with every form of relations between the government and the railroads is that it seems impossible to keep politics out of them. Because of their political influence the leaders of organized labor seem in a fair way to get provisions requiring employment and recognition of the "standard" unions inserted in the bill for the creation of a government co-ordinator which would make the proposed legislation largely or wholly ineffective as a means of effecting real economies in operation. Railway managers are just as anxious to maintain and increase railway employment as the leaders of the unions, but increased employment should be secured by means which will promote railway rehabilitation, and the increases in traffic and earnings and economies in operation necessary to enable the railways to make the net earnings from which, directly and indirectly, they must ultimately repay the money borrowed from the government and raise the capital required to carry on a permanent program of improvements. If the administration is not courageous and strong enough to keep every form of politics out of railway legislation, it is not courageous and strong enough to be safely entrusted with all the vast powers for the regimentation of industry and the use of public money which pending legislation proposes to give it.

Limitations on Free Door-Delivery Service

It has been a rather common practice, where railways have offered pick-up and delivery service as a means of attracting l.c.l. freight back to rail transportation, for limitations to be imposed upon the radius within which such service is provided without charge, the most notable example of this having been in the case of the railways which joined to offer store-door service in the Southwestern territory. Just as truck competition has been the basic reason for the provision of

pick-up and delivery service by railways, so has the supposed nature of truck competition been the deciding factor in the limitation of the free zone. The theory has been that really effective truck competition is limited to freight moving about 225 miles or less, and that the railways need not go to the expense of providing free pick-up and delivery service on freight moving greater distances.

Unfortunately, this theory about the effective radius of truck transportation is only partially justified, if justified at all, by the facts. While it is true that truck competition is most severe within the 200-mile radius, it is likewise true that, in most parts of the country, truck competition for freight moving substantially greater distances is strong and growing. Overnight delivery by motor truck of freight moving 300 miles or more from the larger shipping centers of the country is a common occurrence. To limit the area in which free pick-up and delivery service is offered by railways, therefore, is to limit sharply the effectiveness of this improvement of rail transportation service in meeting and overcoming truck competition.

It has been said by officers of certain of the Southwestern lines that limitation of the free store-door service in that territory has handicapped the efforts of the roads to do a thorough job of meeting truck competition. The Louisville & Nashville and other lines in the Southeast, which only a few weeks ago instituted a plan of free pick-up and delivery service for l.c.l freight moving 230 miles or less, have already increased the radius of the free zone to 360 miles. Finally, the roads which have made the most impressive records in winning l.c.l. freight back to the rails by offering free pick-up and delivery and other improvements in their service, are the ones which have imposed no limit of mileage upon their shippers. The conclusion to be drawn from this seems to be self-evident. Store-door pick-up and delivery service, without charge, unless offered to all shippers of l.c.l. freight without narrow restrictions, will never be completely effective in accomplishing its aim of so improving railway service as to make it more attractive than truck service.

Delay May Be Serious

Most maintenance of way work is not necessarily seasonal in character. Surfacing and ditching must be done when the roadway is free from frost; ties can best be renewed at the same time, frequently in connection with surfacing. Many roads still prefer to lay rail during the spring in order that they may have the opportunity to bring the track into proper surface and line immediately thereafter. All of these considerations cause the concentration of much of the year's maintenance work in the spring and summer, and preferably in the early months of the spring before the summer's heat reduces production.

Such work must be planned in advance, for materials must be ordered, working schedules prepared and forces organized. Yet, although the spring is now well advanced, relatively little is being done towards organizing for this season's activities. Rail orders are almost non-existent, orders for crossties are at the lowest level within memory, and other roadway materials are similarly ignored. It is true that traffic is still seriously subnormal and earnings discouragingly meager—but traffic is increasing and with it earnings as well. Furthermore, the track and structures, the foundation of our transportation system, have now been increasingly undermaintained for more than three years until they are now in arrears more than a full year's normal maintenance. At the same time, the deterioration due to the wear and tear of traffic and to the elements has continued—at a lessened rate in part, it is true, but continues nevertheless, for tracks and structures, unlike cars and locomotives, are not taken out of service in periods of light business, but are required to carry with normal safety and at the same speeds such trains as may be operated.

Tracks and structures entered the period of the depression in the best condition in their history. Heavy rail, treated ties, additional ballast, etc., all added to the strength of the track structure. This strength which had been plowed into the properties has stood them in good stead since 1929. To date the record has been excellent. To say, however, that much of the reserve strength has not been extracted from the properties is to deny plain facts, for rail wear has not been made good, tie decay has progressed, ballast has become fouled—in fact, the deterioration has been continuous and universal.

Has this condition reached the danger point? As a whole, the answer is in the negative, for trains still move with their customary speeds with entire safety. More directly to the point is the question as to how long they can continue to so move. Obviously they cannot do so indefinitely. Already there are still in track more than 200 ties per mile of track that under more normal conditions would have been removed as unfit for further service; likewise, more than 3,000,000 tons of rails would have been relegated to secondary lines.

This problem is particularly pertinent now, for if plans for a maintenance program are not initiated in the immediate future, climatic conditions will necessitate further postponement in large measure until next spring. This is the most serious phase of the problem. Within a very short time delay in the starting of maintenance of way work will no longer mean postponement until the following month but rather until next spring, with the continued weakening of the track structure through undermaintenance. So far as maintenance of way is concerned, the decision that will be made in the next few weeks will determine the condition of the railway for another nine months, largely regardless of increases in traffic that now appears to be so

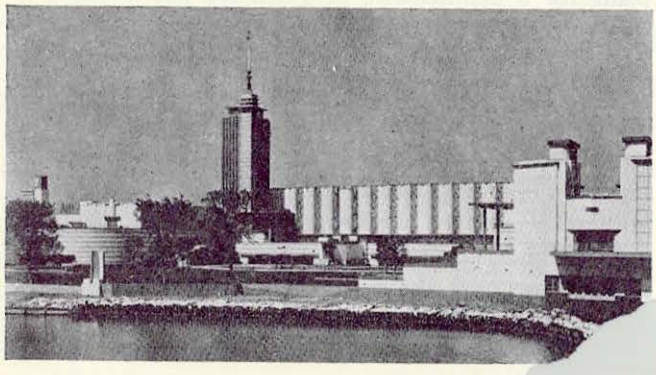
The Travel and Transport Building is the Center of Railroad Interest

Railroads an Important Feature at World's Fair

Century of Progress Exposition depicts developments of railways and supply manufacturers during the last 100 years

THE Century of Progress Exposition, which opens at Chicago today and which will remain open until November 1, constitutes an enthralling drama of human achievement in transportation and other avenues of industry during the past century, together with glimpses into the future, both near and distant. The inspiration for this project is found in the fact that 1933 marks the centennial of Chicago. Coincident with its birth as a municipality, there began man's greatest forward movement in the fields of transportation, invention and scientific achievement.

The Exposition depicts in easily understandable displays and in countless ways new and improved transportation facilities, new methods of communication, new processes of manufacturing, new weapons for fighting disease and new products. Dioramas are more extensively used and more highly developed than ever before. The diorama combines the art of the sculptor, the painter, the architect and the stage director with the knowledge of the scientist and the skill of the engineer. It is a representation in three dimensions, width, height and depth, with motion added. The foreground contains the actual objects, modeled in scale and receding in perspective into the painted background. The changing light effects and moving objects give the effect of reality. The 500 exhibitors depicting these developments are housed in 20 buildings constructed by the Exposition and 33 special buildings erected by outside interests, the 53 buildings being located on a three-mile stretch of lake shore extending from Twelfth to Thirty-ninth streets and including an island of 80 acres.



The Hall of Science Contains Several E... Railway Supply Compa...

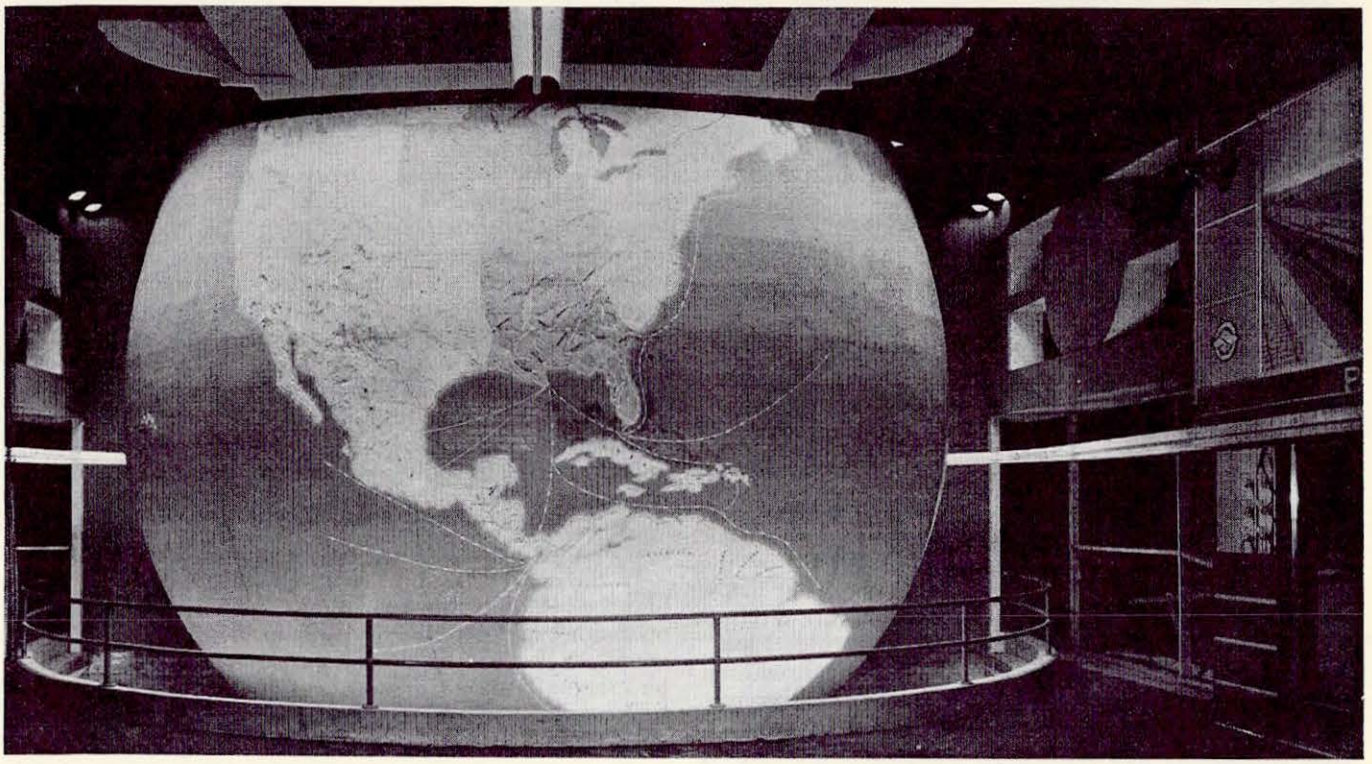
Exhibitors and concessionaires have contracted for special buildings and space in buildings constructed by the Fair and for services and attractions, involving the expenditure of more than $12,000,000. Of this total, $3,087,817 represents the cost of 33 special buildings constructed by exhibitors, while $2,744,257 represents the outlay for space contracted for by exhibitors in the Fair buildings. Concessionaires totaling 225 have spent $6,220,438 for transportation, restaurants, amusement attractions and other facilities.

Because the railways have made possible the development of the country, they occupy a most important role in the Century of Progress Exposition. The Exposition, while commemorating 100 years of industrial development, is being held at a time when steam railroad transportation in the United States is also 100 years old. The significance of railroad transportation in relation to the century's progress is further indicated by the fact that during the development of the Exposition, that portion devoted to travel and transport was promoted first and the building that houses travel and transport exhibits was constructed before any other exhibition buildings. It was the only building to be dedicated formally, this event taking place on September 21, 1932, under the auspices of the Traffic Club of Chicago.

Exhibits forming the travel and transport section of the Fair are located in the Travel and Transport building and on tracks adjacent to the building, while many

office. Next is a chair car of the type carried on the Burlington's Chicago-Denver train, the Aristocrat, and demonstrating the latest style of adjustable chairs. The third car is a dining car similar to those used on the Black Hawk operating between Chicago and the Twin Cities. Next are two Pullman cars featuring different types of accommodations and illustrating the equipment carried on the North Coast Limited and the Empire Builder between Chicago and Portland, Ore. The last unit is a solarium lounge car with appointments suggestive of a town club.

In contrast to this train of 1933, the Burlington is exhibiting on an adjoining track a diminutive "Tea Kettle" engine with its diamond smoke stack and long pilot such as was in use in the West in the early eighties. Behind this old engine is a replica of one of the first railway post office cars operated in the United States and built in 1862 in the railway's shops at Hannibal, Mo.



National and International Trade Routes Are Shown on Illuminated Section of the Globe in the Illinois Central Exhibit

The "Minnetonka" a 63-year-old locomotive of the Northern Pacific, is participating in Wings of a Century.

In addition to its train exhibit in the outdoor transportation show, the Burlington and affiliated lines have an exhibit in the Travel and Transport building, which presents in detail large-sized models of four outstanding vacation areas, the Rocky Mountain National Park in Colorado, the Yellowstone National Park in Wyoming, the Glacier National Park in Montana and the Black Hills of South Dakota.

Chicago, Milwaukee, St. Paul & Pacific

The exhibit of the Chicago, Milwaukee, St. Paul & Pacific consists of an electric locomotive, a large animated wall map showing the Milwaukee system and a relief map and model portraying the scenic characteristics of the territory served by the railroad between Harlowton, Mont., and Seattle-Tacoma, Wash., a distance of about 850 miles.

The animated wall map, 20 ft. by 8 ft., illustrates the service provided by the Milwaukee, various routes being marked by colored translucent inserts. In addition, five small stages opening into the face of the map show the attractions of the important resort regions. As the lights which traverse the colored inserts, progressively illustrating the passage of the train from starting point to the end of the route, reach the symbol for each of the 85 cities and towns to be shown, the name of each is illuminated. When the lights reach the terminals, modeled reliefs of a fisherman, a geyser, a ship and other subjects appropriately representative of each territory come into view in the stage opening. These various objects are done in brilliant colors and are thrown into relief by controlled colored lights. After each specified route has been progressively illuminated, the right of way of the entire system is lighted. The map also has a unique topographical treatment to illustrate waterways, mountains, plains, deserts and other geographical features.

The relief map, 60 ft. by 5 ft., portrays the scenic characteristics of the territory traversed by the Milwaukee road between Harlowton and the Pacific coast, a distance of about 850 miles. Two miniature trains, one a passenger, The Olympian, and the other a freight, each drawn by an electric locomotive, are an interesting feature of this part of the exhibit.

Chicago, Rock Island & Pacific

Eighty-one years' development of the Chicago, Rock Island & Pacific and its territory, condensed into a presentation of only a few minutes' duration, continuously repeated, constitutes the theme of the exhibit of that railroad. The story is told by several means, among which is a 17-ft. "Map that Talks", showing 14 middle western states and depicting the industrial and agricultural products of the territory, with notes on the service rendered by the railroad. The exhibit also embodies a sound-motion picture, in natural colors, of the Golden State Limited and Rocky Mountain Limited routes. The animated map is accentuated by a monumental mural reflecting the influence of the railroad on the develop-

ment of the states as the railroad expanded its service.

Supplementing the general theme is a motion picture at each end of the 100-ft. exhibit space, illustrating some of the interesting activities of the railroad with which the general public does not come in direct contact, but which form an important part of the railway service.

Chesapeake & Ohio

The Chesapeake & Ohio Lines, the Erie, the New York, Chicago & St. Louis and the Pere Marquette, have devoted their joint space to a model railroad operating in a miniature scenic reproduction of the railroad line. Three trains, a passenger, a merchandise freight train and a coal train, are shown in operation. The background is a series of historical paintings depicting the growth and development of the Chesapeake & Ohio Lines.

Delaware & Hudson

The Delaware & Hudson exhibit is identified by the company's name and distinctive monogram. A mural painting, showing the location of the various cities, lakes, mountains and other points of interest along the lines from Wilkes-Barre, Pa., and Binghamton, N. Y., to Montreal, extends in a quarter circle centering about a marble information booth in the front corner of the display. Below and in front of the painting is a group of relief maps, modeled to scale, and showing (1) the Marvine Breaker, Scranton, Pa., where Delaware & Hudson anthracite is prepared for market; (2) the Port of Albany, including the large grain elevator; (3) the Hotel Champlain and cottages at Bluff Point, near Plattsburgh, N. Y.; and (4) the plant of the Chateaugay Ore & Iron Company at Lyon Mountain, N. Y.

A series of photographic transparencies depicting various points in the Adirondacks, on Lakes George and Champlain, in Ausable Chasm and in the Hudson and Susquehanna valleys is used between the relief maps and on the corner posts of the booth. Glass cases containing specimens of the various products of the company's subsidiaries and of the region traversed by the railroad are placed in front of and below the relief maps.

In addition to the indoor booth, the Delaware & Hudson has sent a replica of the historic "Stourbridge Lion," first locomotive to run on an American railroad on August 8, 1829. Completing the exhibit is the recently constructed locomotive, "L. F. Loree," a four-cylinder, triple-expansion, non-articulared compound locomotive, carrying 500-lb. steam pressure and equipped with Dabeg rotary cam-type poppet valves controlling steam distribution to the cylinders.

Illinois Central

National and international trade routes served by its system are graphically illustrated by the Illinois Central on a huge illuminated section of the World globe which is the chief feature of its exhibit. Flowing lines of light over the huge relief map of the Western Hemisphere show the trade currents by land and sea. The section of the globe is 21½ ft. high and an automatic electric switchboard controls the moving lights along the railroad system and steamship highways. Nine mural paintings illustrate the role of transportation in civilization.

Around the walls runs a miniature railroad in full operation, with block signals, switching, passenger and fast freight service. The trains, built to a scale of one-fourth inch to one foot, are exact models of Illinois Central locomotives and cars.

Missouri-Kansas-Texas

The natural resources of the Southwest are displayed by the Missouri-Kansas-Texas. Twelve of the principal cities served by the Katy are given a prominent place in the exhibit, which presents a graphic picture of the progress of the Southwest in the last 100 years, and of the four principal sources of wealth—cotton, wheat, livestock and oil. The story is told with dioramas and specially prepared literature, which is being distributed from the exhibit.

New York Central

The route of the New York Central between Chicago and New York is featured in that system's exhibit. A 60-ft. bas-relief map of the system, an ingenious mechanical panorama of the Twentieth Century Limited on its daily run, the stations and their location in Chicago and New York and dioramas of Niagara Falls and the Highlands of the Hudson picture the characteristics of the system. Adjacent to this exhibit, the New York Central has installed a lounge in which is a miniature railway historical museum, containing paintings, prints and models of early trains and locomotives, and pictures and models of early steamboats and stage coaches.

Norfolk & Western

A dramatization of the manufacture and transportation of coal mined along the line of the Norfolk & Western comprises that railroad's exhibit in the General Exhibits building. The exhibit is in the shape of a huge block of coal, approximately 22 ft. square and 10 ft. high. In the interior of the block, which has been given the effect of having been hollowed out, is a realistic, miniature modern mining community, faithfully executed to the most minute details. Various operations, the movement of the coal down the conveyor chute, the cleaning and grading of coal in the tipple and the loading into railroad cars under the tipple are mechanically animated. Around the sides of the model, miniature freight and passenger trains operate over the main line of the railway. An entrance in the back of the exhibit leads into a mine tunnel in which the actual coal mining operations are shown by means of a diorama.

In the darkened tunnel is a miniature mine track with branches leading into two rooms, in which actual mine operations are depicted in miniature. As the observer enters or leaves the tunnel, he sees in lighted display bins, actual samples of high and low volatile coal. The coal in each bin represents one of the several different sizes in which the fuel is produced.

Pennsylvania

A full-size steel cab from one of the Pennsylvania's largest locomotives features that road's exhibit. The cab has a complete boiler back-head, with all equipment, including cab signals. The cab signals are synchronized with full-size, position-light roadside signals, which are in continuous operation at each end of the exhibit space.

An 82-in. driving wheel, rotating above a 152-lb. rail on a section of modern roadbed, is another feature of the display. Contrasted with this modern wheel is a driving wheel from the "John Bull," the Pennsylvania's century-old locomotive. The "John Bull" wheel rotates above a section of track taken from the old Camden & Amboy Railroad of 1832, a stretch of the original roadbed which is still in existence near Jamesburg, N. J. The old rail is spiked to the original stone blocks used a century ago. Artistic wood carvings of the "John Bull" engine and of a modern Pennsylvania locomotive are set in the frieze above the wheel and track displays.

By the use of dioramas, the exhibit illustrates how the nation's railroads give unmatchable and dependable transportation service, day and night, in all seasons of the year. A miniature four-track roadbed is installed in

the foreground of these dioramas, and passenger and freight trains of all classes are operated continuously. Through the night scene, the trains are automatically lighted.

Miniature dioramas of the Civil War period, including passenger and freight train reproductions of that time, are also displayed. Co-ordination of railroad service with other modes of transportation, including airplane, bus, car-ferry, steamship and truck, is illustrated by large velour murals. A rail development display is also provided as an attraction of the exhibit. The original "John Bull" locomotive of 1831, together with tender and coach, is displayed by the Pennsylvania in the dome of the Travel and Transport building.

Railway Express Agency

The exhibit of the Railway Express Agency reviews the progress of express service during the past century by paintings, pictures and exhibits, including relics of the early days and models, symbolizing present-day methods and practices. Thus, what may be called the seven ages of the express are typified by a series of fine oil paintings by Robert E. Lee, New York artist. Among the relics of the early days are the carpetbag and haversack used in 1839 when the express service was established; a wheelbarrow of 1844, used for deliveries in Syracuse, N. Y.; old receipts and waybills; and revolvers and shotguns. Models include early wagons, present-day motor trucks and tractors, a model refrigerator car and airplanes. In addition, this company has loaned three original Concord stage coaches which it retained for several years as relics. One of these is exhibited in the rotunda of the Travel and Transport building and two are used in the "Wings of a Century" pageant.

Pullman Company

Outstanding and novel exhibits are the all-aluminum observation-room car of the Pullman Company and the all-aluminum observation-coach of the Pullman Car & Manufacturing Corporation displayed in the rotunda of the Travel and Transport building. The observation-room car, named the "George M. Pullman", represents the third evolutionary milestone in Pullman construction—wood in 1859, steel in 1907 and aluminum in 1933. Although only slightly more than half the weight of a standard steel car, this stream-lined sleeping car, all parts of which are aluminum, has equivalent strength. One outstanding feature of the car is a four-wheel truck cast of solid aluminum. The car, which is specially designed throughout, is air-conditioned. The observation-coach, which also is stream-lined, is built for operation at the end of a train. The car has four-wheel trucks and is air-conditioned. Articles describing these cars in detail will appear in subsequent issues of the *Railway Age*.

Alongside the aluminum sleeping car in the rotunda, the Pullman Company is exhibiting sleeping car No. 9, the first Pullman built, and a vestibule of a Pullman car of 1887. In addition, the company has arranged an elaborate display of the various types of Pullman accommodations in another part of the Travel and Transport building. These are placed in recesses in the walls of the exhibit space, the ceiling of which forms a dome. A portion of the exhibit is devoted to "housekeeping" activities and indicates the volume of materials and supplies required to perform Pullman service. The laundering and care of sheets and pillow cases and the care of other equipment are also demonstrated. This portion of the exhibit is so arranged that other phases of Pullman operation may be substituted during the Fair. The general tone of this exhibit is in sympathy with the design of the aluminum cars. The name, Pullman, in large aluminum letters appears on the outside of the space.

Supply Company Participate

Another interesting part of the Travel and Transport section of the Fair is the exhibits of more than 70 railroad supply companies which appear in the Travel and Transport group, the Electrical group, the General Exhibits buildings, the Hall of Science and in special buildings. Of these companies, 24 have exhibits in the Travel and Transport group, either in the outside space, the rotunda, the first floor, or the second floor of the main building.

The railroad supply company exhibits, which are designed to interest both railroad men and the public, vary in type, some being a display of actual products, pictures of products or models of products, while others are devices and dioramas which show the manufacturing of the products, the operation of facilities or the development of the industry. Several companies, such as the General Steel Castings Corporation, the Pullman Car & Manufacturing Corporation, the North American Car Company and the General Transportation Corporation, are exhibiting various types of cars. Other railroad supply company exhibits deal with signaling, track supplies, mechanical equipment, lubrication, the making of steel, electrical equipment and chemicals. Among the more important railroad supply company exhibits are the following:

Supply Companies in Travel and Transport Building

American Steel Foundries, Chicago.—A collection of car couplers, dating from 1840 to 1933, a link and pin, photographs of products and a mural painting, picturing the pouring of steel from a 20-ton ladle.

Association of Manufacturers of Chilled Car Wheels, Chicago.—Depicts advance in the art of chilled car wheel making from the day of the 10-ton freight car to the present-day 70-ton car, a mechanical unit operating to show the pouring of a wheel, oil paintings of the development of railroad equipment, a pair of 400-lb. wheels of 1843, and a pair of 850-lb. wheels of 1933.

Carnegie Steel Company, Pittsburgh, Pa.—Outdoor installation of GEO track construction, including frogs and switches.

General American Transportation Corporation, Chicago.—A milk car for passenger train operation, a beef car and an automatic unloading Dry-Flo car.

General Steel Castings Corporation, Eddystone, Pa.—A 70-ton hopper car with a Commonwealth one-piece cast steel underframe with hoppers' cast integral.

Poor & Co., Chicago.—Track fastenings. Rail Joint Company—headfree and other types of joints. P. & M. Company—rail anti-creepers. Maintenance Equipment Company—Meco rail and flange lubricator.

Standard Oil Company, Chicago.—Motion pictures projected on screens on upper portion of dome.

Timken Roller Bearing Company, Canton, Ohio.—Car bearing, locomotive driver bearing and a steel mill roll neck bearing.

Union Switch & Signal Company, Swissvale, Pa.—A coded, continuously-controlled, constantly-visible signal in the locomotive cab, a centralized traffic control system and highway crossing protective apparatus.

Westinghouse Air Brake Company, Wilmerding, Pa.—Air brake equipment, including distributing valves, air

compressors, an original air brake of 1869, a modern air brake for freight cars and an automotive air brake system.

Whiting Corporation, Harvey, Ill.—Photographs of products and colored slides.

Supply Companies in Other Buildings

Electric Storage Battery Company, Philadelphia, Pa. (Electrical building).—Batteries, paintings showing the cycle of change in lighting and storage battery applications, such as railway, car-lighting and signals; and a section of the Exide battery used by Byrd on his Antarctic trip.

Inland Steel Company, Chicago (General Exhibits building).—Steel in its natural state after rolling, carved steel, rail sections, track fastenings, an animated rolling mill, a movie of a sheet mill, and a model of a skyscraper.

General Electric Company, Schenectady, N. Y. (Electrical building).—An all-day series of 30-min. shows demonstrating the use of equipment, air-conditioning equipment for buildings, and a model of a 20,000-kw. mercury vapor turbine.

Union Carbide & Carbon Corporation, New York (Hall of Science).—Operating models and diagrams to explain the use of products, flashlights, batteries, carbons, prestone, ferrous and non-ferrous alloys and other metallurgical products, calcium carbide, and compressed gases.

United States Steel Corporation, New York (General Exhibits building).—Graphic moving displays of an open-pit ore mine, a blast furnace, a converter and models of ocean liners, automobiles, steel bridges, skyscrapers, locomotives and machines, and stainless steel products.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. (Electrical building.—A Diesel electric generating set, a model of a Pennsylvania electric locomotive, full-size models of electrical equipment, a model of a steam turbine, a section of a water wheel generator, and an operating model of a steel mill.

New Loans Proposed For Equipment and Maintenance

WASHINGTON, D. C.

A NEW opportunity for government loans to railways, free of some of the restrictions that have been imposed as to loans from the Reconstruction Finance Corporation, but also with some new ones, is afforded by the terms of President Roosevelt's industrial recovery—public works bill introduced in Congress on May 17 and reported to the House this week.

"With a view to increasing quickly employment (while reasonably securing any loans made by the United States)" the President would be authorized and empowered by this bill, through the proposed Federal Emergency Administration of Public Works or through such other agencies as he may designate or create, "to aid in the financing of such railroad maintenance and equipment as may be approved by the Interstate Commerce Commission as desirable for the improvement of transportation facilities." The authority thus granted is very broad and the bill gives no indication as to how much of the $3,300,000,000 total authorized in it would be available for loans for such purposes. Neither does it indicate that such loans might not continue to be made through the R. F. C. and the I. C. C. as in the past, and there has been no announcement of any new set-up being proposed for the purpose.

An important fact, however, is that the bill proposes no limitation as to the term for which loans to railroads might be made under this authority, nor as to the rate of interest, and it is believed that many railroads would be glad to take advantage of it if the terms were made sufficiently liberal. It is understood, also, that the administration wants them to do so, just as the last administration did, although very few companies took advantage of the arrangements for "work loans" from the R. F. C. which were worked out after many conferences last summer, partly because they thought the interest rate, 5 per cent, was rather high.

Loans from the Reconstruction Finance Corporation are limited to three years, with a possible renewal for two more, the interest rate being fixed by the directors of the corporation, and would be further restricted by two bills now pending in Congress. The emergency railroad bill provides that the I. C. C. shall not approve a loan to a railroad under the R. F. C. act if it believes it ought to be reorganized, and another bill relating to insurance loans, as passed by the Senate, includes a provision that the corporation shall not make a loan to any company paying any greater salary than $17,500. The House, on Wednesday, eliminated this limitation but left discretion on requirements as to salaries to the directors of the R. F. C.

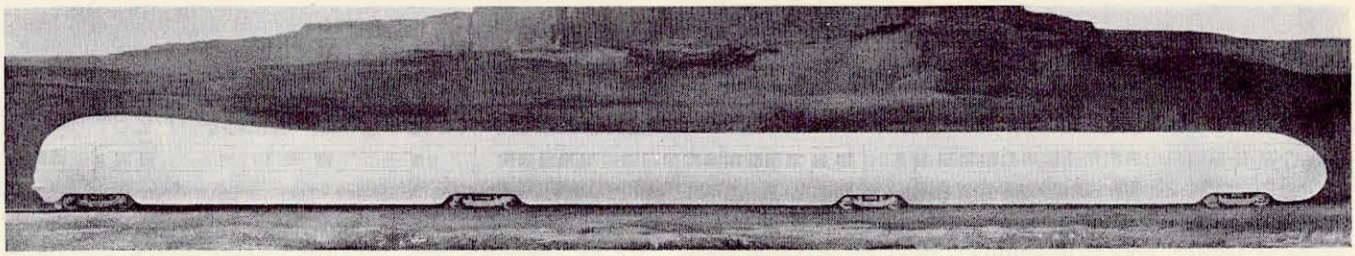
The interest rate on ordinary loans from the R. F. C. was 6 per cent last year but was reduced on January 1 to 5½ per cent.

The public works bill, however, contains a provision that has been required as a condition for work loans that, so far as practicable, no individual directly employed on the project for which the loan is made shall be permitted to work more than 30 hours in any one week, (except in executive, administrative, and supervisory positions) and a new one that "all employees shall be paid just and reasonable wages which shall be compensation sufficient to provide, for the hours of labor as limited, a standard of living in decency and comfort."

The work loan plan as worked out last summer provided for loans on the security of the equipment to be repaired, which was to be held out of service until the money borrowed for the purpose was repaid. It was also understood that the interest would accrue but not be due or collected until the equipment was put in service and in some instances the Interstate Commerce Commission, upon application, authorized that the expenditure be charged to a suspense account so that the charge to operating expenses could be deferred until the equipment was used. Half a dozen or more roads have received work loans for the repair or rebuilding of cars and locomotives, for the treatment of ties, and the commission has recently approved such a loan to the Southern Pacific for the completion of a passenger terminal. The rate of interest was fixed at 5 per cent, which was 1 per cent less than had been charged for ordinary railroad loans from the R. F. C., although some of the earlier loans had been made primarily to continue work that would furnish employment.

A plan was also worked out last summer under which an equipment financing corporation was organized by the equipment manufacturers to finance the purchase of equipment through funds furnished in part by the R. F. C.

According to its latest report the R. F. C. had authorized loans amounting to $335,809,572 to 65 railroads, and some additional loans had been authorized by the I. C. C. including some not yet acted upon by the directors of the R. F. C.



The Light-Weight Articulated Passenger Train Which Will Be Built for the Union Pacific

Union Pacific Plans High-Speed Streamlined Train

Three-coach, 80-ton, articulated unit, with speed of 110 m. p. h., will be driven by 600-hp. distillate-electric power plant

AN order has been placed by the Union Pacific for the construction of a distillate-electric articulated passenger train comprising three body units of light weight and fully streamlined construction, capable of speeds up to 110 m.p.h., with the Pullman Car & Manufacturing Corporation and the Winton Engine Company. The train will cost approximately $200,000. It is to be completed in about six months. It will be first operated on special runs between the larger cities of the Union Pacific System to demonstrate its practicability for regular main-line through passenger-train service, including continental service.

According to an announcement by W. A. Harriman, chairman of the board, the executives of the Union Pacific several months ago reached the conclusion that to save and restore passenger business to the railroads would necessitate the development of a radically different type of passenger equipment. An exhaustive study was instituted looking toward the development of a light, high-speed train which would provide safe, comfortable transportation at a minimum of cost. Such a train has now been developed and an order will be placed immediately for a demonstration train.

Unique Body Construction

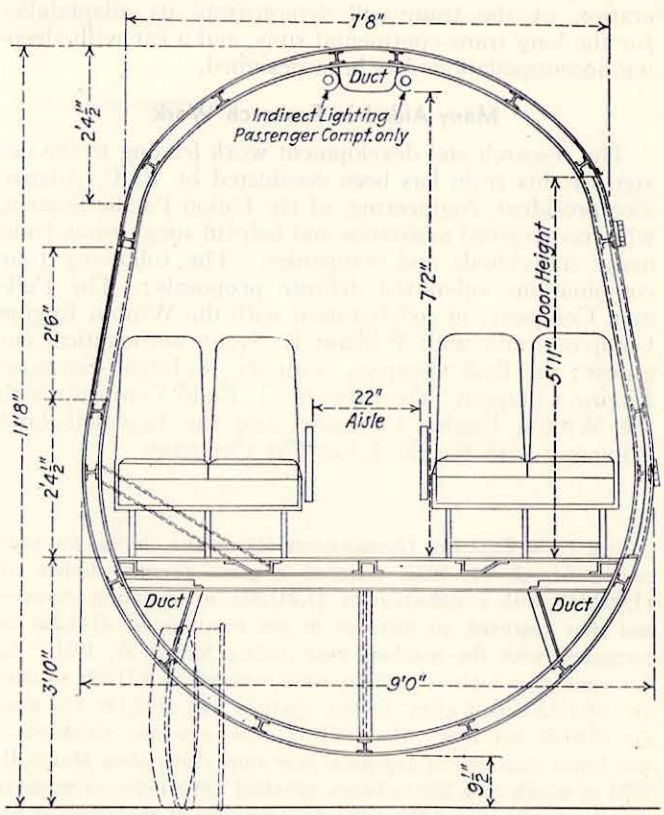
The design has been based largely on automotive and aircraft developments, where speed and light weight, combined with strength, has been a vital necessity. To obtain light weight, with strength, the train will be constructed of aluminum alloys, which have the strength of ordinary steel with one-third the weight. In place of the conventional underframe now used on passenger cars, which takes all of the shock and, in some cases, carries the superstructure and the load, each car in the new train is tubular in shape and the entire car body forms a deep, stiff beam, thereby requiring a minimum amount of material for a given strength.

The equipment is designed for a maximum speed of 110 m.p.h., with a sustained speed on straight and level track of 90 m.p.h. The train will weigh not over 80 tons, about the weight of one Pullman sleeping car.

Wind-Tunnel Tests to Develop Streamlining

The train is fully streamlined to a greater extent than has been attempted to date, either in this or any foreign country. In order to refine the streamline design, models are to be made of this train, varying somewhat the shape of the ends, these models to be placed in a wind tunnel in order finally to arrive at the best shape to give minimum air resistance. Computations indicate that proper streamlining will reduce the power requirements at 100 m.p.h. more than one half as compared with a railway vehicle of ordinary shape.

To get the full benefits of streamlining the windows, of shatter-proof glass, are placed practically flush with the outside of the car; vestibules between cars are covered to continue the smooth sides of the cars; all such



Proposed Body Cross Section of the Union Pacific Articulated Train

devices as headlights, tail lights, whistles, bells, etc., are recessed into the car body. A specially designed mechanism opens the doors and lets down folding steps for entrance to, and exit from, the car.

Air Conditioning and Rubber Cushioning to Insure Comfort

The train will be fully air conditioned, with windows sealed, and forced ventilation used which will heat the train in winter, cool it in summer, filter all dirt and dust from the outside air. The pressure in the car will exclude all dirt and cinders.

The sealed windows, heavy body insulation, complete streamlining, liberal use of rubber in trucks, and the probable use of a resilient wheel will materially reduce noise.

An indirect lighting system is provided, giving uniform light reflected from the ceiling. The seats are the most comfortable that modern art has developed. Interior decorations are striking but simple. The train is completely equipped with roller bearings in order to reduce friction and avoid the necessity of terminal attention.

Articulation

This train will consist of three cars, articulated (four trucks). The purpose of such articulation is to save weight, first cost and friction of trucks, reduce cost of maintenance, and give a better riding quality by the elimination of slack between the cars.

The first car body will contain a 600-hp. Winton 12-cylinder V-type distillate-burning internal-combustion engine with direct connected electric generator and motors on the wheels of the forward truck, and also contains a 30-ft. railway post office and a baggage room. The second car body is a coach seating 60 passengers. The rear car body is also a coach seating 56 passengers, with a buffet at the rear end to serve light meals to passengers in their seats. This first train will not have any sleeping accommodations, but it is expected that the operation of the train will demonstrate its adaptability for the long trans-continental runs, and a car with sleeping accommodations has been designed.

Many Aided in Research Work

The research and development work leading to the design of this train has been conducted by E. E. Adams, vice-president, engineering, of the Union Pacific System, who has received assistance and helpful suggestions from many individuals and companies. The following four combinations submitted definite proposals: The Pullman Company, in collaboration with the Winton Engine Company, and with William B. Stout, aeronautical engineer; the Brill Company with the McIntosh-Seymour Engine Company; the Edward G. Budd Company with the Winton Engine Company, and the Ingersoll-Rand Company with the St. Louis Car Company.

THE NEW ZEALAND GOVERNMENT RAILWAYS, during the year ending March 31, 1932, matched a gross revenue decline of £1,062,589 with a reduction of £1,211,855 in operating expenses and thus reported an increase in net revenues of £149,266 as compared with the previous year ending March 31, 1931. At the same time interest charges were reduced by £33,880 so that the 1931-32 deficit after interest charges was £183,146 less than the 1930-31 net loss. The 1931-32 gross revenue—£6,508,948—was lower than that of any fiscal year since that ending March 31, 1920 at which time the railways operated 2,996 miles of track as compared with the 3,315 miles in operation at the close of the 1931-32 fiscal period.

Freight Car Loading Exceeds That For Last Year

WASHINGTON, D. C.

FOR the first time since the depression began revenue freight car loading in the week ended May 13 exceeded that for the corresponding period of the previous year, amounting to 531,095 cars. This was an increase of 7,276 cars above the total for the preceding week and of 13,835 cars as compared with the corresponding week of 1932, although it was a decrease of 215,962 cars as compared with 1931. The total was slightly less than that for the week ended April 29, which was 535,676 cars, and the comparison with last year is made with a period when loading was on the down grade, but the increases included all classes of commodities except l.c.l. merchandise. As compared with the previous week increases were shown as to all classes except grain and grain products and livestock. The Eastern, Allegheny and Central Western districts showed decreases as compared with last year. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, May 13, 1933

Districts	1933	1932	1931
Eastern	121,007	121,206	169,159
Allegheny	98,877	102,297	149,199
Pocahontas	34,782	30,464	44,616
Southern	82,018	78,360	114,483
Northwestern	67,063	60,233	91,364
Central Western	77,084	80,958	112,474
Southwestern	50,264	43,742	65,762
Total Western Districts	194,411	184,933	269,600
Total All Roads	531,095	517,260	747,057
Commodities			
Grain & Grain Products	38,947	28,526	36,942
Livestock	17,441	17,051	21,227
Coal	81,046	73,528	111,368
Coke	3,728	3,016	6,549
Forest Products	20,024	18,783	33,867
Ore	6,724	2,593	11,875
Merchandise l.c.l.	164,374	181,562	224,252
Miscellaneous	198,811	192,201	301,427
May 13	531,095	517,260	747,057
May 6	523,819	533,951	745,740
April 29	535,676	554,197	774,742
April 22	492,970	562,527	758,503
April 15	494,215	566,826	759,494
Cumulative total, 19 weeks	9,269,338	10,616,174	13,894,918

The freight car surplus for the last week of April averaged 618,864 cars, a decrease of 32,102 cars as compared with the number on April 14. The total included 313,700 box cars, 237,072 coal cars, 29,628 stock cars, and 29,628 refrigerator cars.

Car Loading in Canada

Car loadings in Canada for the week ended May 13 failed to maintain the increases recorded for the previous three weeks and decreased from 37,409 cars for the previous week to 36,453 cars, and the index number dropped from 63.59 to 60.63.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
May 13, 1933	36,453	18,110
May 6, 1933	37,409	17,930
April 29, 1933	36,049	18,192
May 14, 1932	43,777	19,401
Cumulative Totals for Canada:		
May 13, 1933	637,372	328,838
May 14, 1932	786,717	408,326
May 9, 1931	905,222	538,918

Emergency Railroad Bill Amended To Prevent Dismissals

Senate committee revisions, including changes insisted upon by railway labor, would limit possible economies

WASHINGTON, D. C.

LARGELY rewritten to include many of the amendments insisted upon by the railway labor organizations, as well as some others, including a provision intended to prevent dismissals of employees that would reduce the number in service in May, the President's emergency railroad bill was favorably reported by the Senate committee on interstate commerce on May 22 and was expected to be taken up in the Senate possibly next week. The House committee on interstate and foreign commerce also concluded its hearings on the bill the same day and hoped to act on it during the week.

Railroad representatives took the position that if the amendments were adopted the very purpose of the bill would be defeated, because the expected economies would be confined to those that could be effected without even temporary dismissals of (railroad) employees, and that in its revised form it might as well not be passed. The bill, however, still includes the provision for a repeal of recapture which they have advocated and the Senate committee also adopted an amendment urged by the Association of Railway Executives, eliminating as unnecessary the provision in Section 14 under which the Interstate Commerce Commission would have been directed to withhold its authorization of a railroad bond issue unless satisfied that the company could survive the depression without reorganization. As amended the bill provides that the commission shall not approve a loan to a carrier under the Reconstruction Finance Corporation Act "if it is of the opinion that such carrier is in need of financial reorganization in the public interest: Provided, however, that the term 'carrier' as used in this section shall not include a receiver or trustee."

May Employment Not to be Reduced

The most important change adopted to meet the objections of the labor organizations as advanced by Donald R. Richberg, their counsel, provides that: "The number of employees in the service of a carrier shall not be reduced by reason of any action taken pursuant to the authority conferred by this title beyond the number as shown by the payrolls of employees in service during the month of May, 1933, nor shall any employee in such service be deprived of employment or be in a worse position in respect to his compensation by reason of any action taken pursuant to the authority conferred by this title except to the extent that after the effective date of this act vacancies are created by the death, normal retirement, or resignation of employees, but not to exceed 5 per centum in any one year."

It is understood that this provision was approved by the President, after representations had been made to him that it would be difficult to pass the bill without some such concession to labor. It would prevent reductions in employment not only as a result of orders of the federal co-ordinator of transportation but also as a result of action taken by the regional railroad co-ordinating committees under the terms of the proposed law. It was pointed out, however, that it might be offset by the normal tendency to increase employment after May, especially if there is to be an increase in traffic this year, and that if so it would be at the expense of additional employees that might be restored to service. On the other hand railroad officers feel that if there should not be a pick-up in traffic there would be even greater need for the economies hoped for from the bill.

Economies could still be effected in the use of fuel, or materials produced by employees not in the railroad service and not represented by Mr. Richberg, and some improvement in earnings might be effected by charging shippers for accessorial services.

Six-Hour Day Amendment May Be Offered

Not only did the Senate committee eliminate most of the deflationary features of the bill, which was originally drafted several weeks back before the new administration suddenly switched almost overnight to a policy of inflation, but it is reported that efforts will be made to convert this bill also into an inflationary measure by adding as an amendment from the floor the six-hour day bill advocated by the railway labor organizations, with provisions for eight hours' pay for six hours' work, on the theory that this would be consistent with the administration's policy as outlined in the industrial recovery—public works bill introduced last week. Such a provision, which an effort was made to include in the bill in committee, would substitute for a bill designed to promote economies an enormous increase in railroad operating expenses when there is still pending before the Interstate Commerce Commission a proceeding looking toward a reduction in freight rates—a proceeding also started before the inflation policy was adopted.

It had been rather expected that some effort would be made in the committee to include some requirement as to executive salaries. During the hearings Chairman Dill had asked Commissioner Eastman as to whether the co-ordinator would have authority to order the reduction of the number of executives of a railroad or reduce the salaries. Mr. Eastman replied that he thought if the co-ordinator "came to the conclusion that there was a wasteful situation existing there he would have that authority," if he could "translate that in his own mind into a waste." The committee report expresses a hope that he may be able to do something in this direction.

National Organizations to Represent All Employees

Section 7 of the bill was also amended to provide that the labor committees to be consulted by the federal co-ordinator before issuing any order affecting employment shall be selected for each regional group of carriers from the 21 national railway labor organizations, identified as those which entered into the wage agreements of January 31, 1932, and December 21, 1932, although it has been shown that they represent but 57.8 per cent of the railway employees. By another amendment the co-

ordinator would be authorized and directed to establish regional boards of adjustment whenever an order of the co-ordinator creates conditions that make necessary such boards to settle controversies arising out of actions taken under authority of the proposed law, and it was also made the duty of the co-ordinator to provide the means for determining the amount and require the carriers to make just compensation for property losses and expenses imposed upon employees by reason of transfers of work from one locality to another in carrying out the purposes of the act. Another amendment provides that carriers, "whether under the control of a judge, trustee, receiver, or private management," shall be required to comply with the provisions of the railway labor act and with the provisions of paragraphs (*o*), (*p*), and (*q*) of Section 77 of the new bankruptcy act of March 3. These provide that no judge or trustee under that act shall change the wages or working conditions of railroad employees, except in the manner prescribed in the railway labor act or as set forth in the Chicago agreement of January 31, or shall in any way question the right of employees to join the labor organization of their choice, or require any person seeking employment to sign an agreement promising to join or to refuse to join a labor organization.

Other amendments adopted by the Senate committee included provisions for bringing under the terms of the proposed act all subsidiaries affiliated with the railways, for the appointment of two special members of the regional co-ordinating committees to represent the short lines and electric railways on matters concerning them especially, that no railroad system shall have more than one representative on a regional committee, that it shall apply to railroads operated by trustees, that orders of the co-ordinator shall not become effective until after twenty days' notice, that state commissions shall be advised in advance of orders contemplated by the co-ordinator that would relieve carriers of the effect of orders issued by them or state laws, and that state authorities and representatives of local governments may have the right of appeal to the Interstate Commerce Commission from orders of the co-ordinator.

Provisions were also inserted to permit appeals to courts from orders of the commission and that nothing in the bill should be construed to authorize carriers to take any action, except when authorized by the co-ordinator, now forbidden by federal or state laws.

Cost Accounting to be Investigated

The reference in the bill to the purpose to control allowances and accessorial services was amended by adding the words "or the charges therefor," this being the only place in the bill in which the co-ordinator is given any jurisdiction over rates. The direction to the co-ordinator to study means of improving transportation conditions was amplified to include an investigation of "cost finding in rail transportation" and the reference to the study of means of improvement of railroad labor conditions was broadened by adding the words "and relations."

The committee failed to adopt the suggestions made by Mr. Richberg for directing the co-ordinator not to issue orders permitting a carrier to take action under authority of the act unless and until it has complied with any directions issued by him advising the carrier to bring about a financial reorganization, or for giving him power to require "rehabilitations, improvements and extensions."

The Senate committee also adopted an amendment to the holding company part of the bill to amplify the definition of the words "control" and "management" and added a provision making it clear that the law may not be construed as a ratification or validation of any acts already accomplished, which would otherwise be invalid under existing law.

Following are some of the comments in the committee report:

Senate Committee Report

The necessity for emergency legislation is found in the desperate financial condition of the railroads. Last year's deficits amounted to $153,000,000. Reports for the first 3 months of this year as compared with a like period for 1932 showed even greater deficits. Loans exceeding $360,000,000 by the Reconstruction Finance Corporation were made during the past year. Some were to pay banks and some to prevent receiverships.

Certain carriers already have gone into the bankruptcy courts under provisions of the bankruptcy act of March 3, 1933. They propose to reduce their capital structures and completely reorganize. Unless business conditions improve rapidly the Reconstruction Finance Corporation must continue to loan large sums in addition to present loans or many more carriers will probably be forced into the bankruptcy courts during the coming year.

One of the results hoped for from this legislation is that a co-ordinator with emergency powers to compel the elimination of unnecessary expenses and the duplication of services and other economy measures can protect the net earnings of the carriers so as to stabilize the value of railroad securities and make unnecessary a continued drain on the Reconstruction Finance Corporation funds. This is extremely important to banks and insurance companies holding such securities, as well as to the individual owners of railroad securities.

Section 14 provides that the Commission hereafter must determine whether or not a carrier asking for a loan is in need of financial reorganization. The policy of making loans to pay interest on railroad bonds that are selling at extremely low prices, without those railroads being compelled to reduce their capital structures and protect their net earnings, is so indefensible that your committee believes this policy should be stopped at once.

In addition to these pressing financial conditions is the general need for some one authority to compel the carriers to unify their services and operate the railroads on a more economical plan. Too many of the railroads have been run in the interests of bankers and interlocking directorates of railroads and other corporations. Some railroad managers would gladly free their properties from such control but have been unable to do so.

It is hoped the Co-ordinator to be appointed under this legislation may be able to standardize equipment, cut off unnecessary and fabulously high paid executives, and bring about a better relation between the carriers and their employees, and provide better service for the public.

Lower Rates Predicted

While this bill gives no control over rates, economies that will result and the new standard for rate making to be established by this bill must eventually result in lower rates.

While this act grants the co-ordinator extremely broad powers, his orders are not final. Any interested party, including States and political subdivisions, may appeal to the Interstate Commerce Commission, which is given power to approve, modify, or set aside his orders. Because of this provision, the co-ordinator can in no sense of the word become a railroad czar.

Your committee gave most careful consideration to the proposal of the railroad labor executives. They insisted that economies to be secured should not result in additional dismissals of large numbers of railroad employees. More than 750,000 railroad employees have been dropped from the pay rolls during the hard-times period. There are approximately 1,000,000 men left in service. Your committee believes that the people as a whole, and particularly the railroad employees still in service, should be assured by the terms of the law itself that there will be no wholesale dismissals by the co-ordinator or the regional committees. For these reasons your committee amended the bill so the co-ordinator cannot dismiss employees, but his orders may result in reducing the number of employees each year by making it unnecessary to fill vacancies caused by death, retirement, or resignation. In case business improves and more employees are needed, the co-ordinator can make orders to absorb that additional number so long as the present number of employees is reduced.

Your committee believes also that where transfers of employees are made to bring about economies, the employees affected should have compensation for property losses.

The suspension of the operation of the antitrust law and all other Federal and State laws must be justified by the economies to be secured and the public interest to be served.

Some witnesses at the hearings protested against that part of title I which provides that orders made under it shall continue

in effect after the emergency period has ended, but your committee decided not to change that provision, because Congress will be in session and can pass any necessary legislation to meet the situation with the approach of the end of the period of emergency control.

No opposition was expressed to the committee regarding the proposal under title II that holding companies should be under the control of the Commission insofar as purchase of stock resulted in consolidation of railroad properties. Without such control the Commission's power over consolidations is rendered practically worthless through the activities of holding companies already in existence, and others that will almost certainly be formed unless legislation of this kind is enacted.

The new basis of rate making proposed has many advantages. Instead of a fixed return on a valuation that must be determined year by year, and readjusted every time the changing personnel of the Supreme Court changes the principle of valuation, the Commission is allowed a much broader discretion and is directed to consider a number of important factors in arriving at just and reasonable rates.

Under this bill the Commission is directed to consider the effect of rates on the movement of traffic, the public interest in adequate railway service at the lowest cost consistent with such service, and the need of the carriers for sufficient revenue to provide such service under honest, economic, and efficient management. It is directed to revise and correct its inventories, classifications, and valuations of property from time to time and give due consideration to the value of extensions and improvements of railway property from time to time.

Railroads Oppose Labor Amendments

R. V. Fletcher, general counsel of the Association of Railway Executives, and Alfred P. Thom, associate counsel, testified before the House committee on May 22, after the action of the Senate committee had become known, and Mr. Fletcher said that if the Senate amendments are to be adopted the bill might as well not be passed. Chairman Rayburn asked what would be left of the co-ordinator bill. If these amendments are adopted, he replied, the very purpose of the bill is defeated, and the railroads should be given an opportunity to be heard on a comprehensive legislative program of their own. He said there would be a deplorable situation if the recommendations to be made by the co-ordinator, after his study of means for improving transportation conditions, should not be ready for consideration when Congress meets next January.

Mr. Fletcher said he thought the proper concept of the bill was that the available tonnage of the country was to be handled in the most economical and efficient way, keeping in mind that the roads now have excess facilities, and the railroads have already done much in the direction of eliminating waste and promoting more economical operation. He also reiterated the carriers' objections to Section 14 of the bill, saying that the Senate committee amendment to some extent took care of the matter but that there should be included the consideration as to whether a company could survive without reorganization under normal conditions.

Mr. Thom repeated before the House committee the suggestion he had made before the Senate committee for a liberalization of the security requirements of the Reconstruction Finance Corporation act with respect to loans to railroads. He also objected to the Senate amendment as to the number of employees, saying that in the interest of reestablishing conditions that would eventually result in increased employment it might be necessary to reduce employment temporarily.

Railroads Not Advocating Bill

The railroads "cannot be said to be advocating this bill," said C. R. Gray, president of the Union Pacific and chairman of the "contact committee" representing the railroads in connection with the proposed legislation, in a statement before the House committee on May 19 before the Senate committee had reported, similar to that he had made before the Senate committee the week before. "We have been interested, as practical men, in making suggestions and helping the sponsors of the bill and this committee in framing a law that will have practical application and be of value in accomplishing the stated purposes of the bill. The railroads will give a loyal support to this bill but it can easily be amended so that it will have no practical value. If net savings can be made they will be reflected in other and necessary work on the railroads so that they will not be entirely lost to labor, but it would be easily possible to so load this bill down with amendments that it would be worse than impossible to accomplish any benefits.

Mr. Gray said he thought the co-ordinator could accomplish a great deal under the provisions of the bill as drafted and that a most valuable part of it is the provision for a study of ways to improve transportation conditions, but he also said that an exploration as to what the policy should be "will lay several ghosts" and that he thought the year would end with the co-ordinator having before him a large volume of recommendations submitted to him by the regional co-ordinating committees which he would not have been able to dispose of.

Saying he had been charged with lack of candor in his statement before the Senate committee that it would be surprising if within a year more than 10,000 men would be displaced by orders of the co-ordinator, Mr. Gray said he had been thinking it over since and would make the same reply, because both the railroads and the co-ordinator would have to organize and many of the subjects to be considered are highly controversial and would be subject to appeal to the Interstate Commerce Commission. If the bill were to remain in effect beyond a year the number would be larger but he had considered only the first year with all the complexities involved. He would not venture to make a guess as to the number that might be affected by the action of the co-ordinating committees, who would have no new powers but would be working with a knowledge of a new governmental policy, in place of the mandate to compete under which railroad men have been working for forty years, and of the fact that the public is now less interested in competition than in the economical operation of the railroads.

Regulation of All Transport Would Bring Stabilization

Mr. Gray said he believed regulation had "stabilized the railroads as regulation would stabilize other forms of transportation that today are murdering each other just as the railroads were murdering each other in pre-regulation days."

Referring to suggested amendments Mr. Gray said the representative of the state commissions had made a fair statement that they should be given the right to appeal to the Interstate Commerce Commission from the orders of the co-ordinator and that it had never occurred to him that they would be excluded. As to the suggestion for pensions, he pointed out that railroads having 90 per cent of the mileage and earnings of Class I roads have pension plans and that in 1931 paid in pensions over $32,000,000, or 40 per cent of the net income, while last year approximately the same amount was paid although the railroads had a net deficit of $153,000,000. As to Mr. Richberg's suggestion that the bill provide for representation of the employees by committees representing the national railway labor organizations he submitted figures showing that only 57.8 per cent of the employees in February, 1933, a total of 543,993, were represented by those organizations, while the great majority of the others are represented by local organizations. These showed 39.3 per cent of the professional, clerical and general group of employees represented by national organizations, 69.9 per cent of the

maintenance of way and structures group, 32.5 per cent of the maintenance of equipment group, 55.9 per cent of the transportation other than train, engine and yard group, 71.7 per cent of the yard group, and 100 per cent of the train and engine group.

Mr. Gray said the fact cannot be blinked that a reduction in service cannot be made which will not largely affect labor but he pointed out that all of the saving does not come at the expense of labor, showing that of the $1.78 per mile out-of-pocket freight train expense in 1931 labor represented 95 cents and materials 83 cents, and of 84 cents a mile for passenger trains 46 cents goes for labor and 38 cents for materials. Also materials include some labor other than railroad labor. The railroads do not object, he continued, to the idea that labor shall be consulted before orders are issued by the co-ordinator but they object to involving new features of labor relations under the spur of an emergency. Mr. Gray also pointed out that the railroads have already done a great deal in the direction of co-ordination and reducing train service and said that there is a greatly exaggerated idea of the savings possible in railroad operation, as indicated by estimates recently made public ranging from $748,000,000 to $1,420,000,000.

A. L. Burford, general counsel of the Louisiana & Arkansas, told the committee that the interests of the smaller railroads is not safeguarded in the bill and that as there is no definition of preventable waste the co-ordinator would have power and might conceive it to be his duty to take action that would seriously cripple some of them, especially if he should attempt to limit or abolish solicitation or close routes. Solicitation, he said, is the only method open to some roads to get traffic and some could not exist if their use as bridge lines was taken away. He suggested an amendment providing that services rendered to the public by the smaller independent railroads shall be recognized and that consideration be given to their financial needs and requirements to the end that they may continue to render such service.

W. E. Lamb, representing the Wisconsin & Michigan Transportation Company, operating a package freight service across Lake Michigan, under joint routes and through rates with the railroads which are under the jurisdiction of the Interstate Commerce Commission, asked for an amendment to include such water lines under the jurisdiction of the co-ordinator. He said that most of the companies that have tried to operate such service on Lake Michigan have been thrown into bankruptcy by intermittent invasion of their routes by competitors during the peak season and that if the co-ordinator is to avoid unnecessary duplication of services it should have control over such lines.

Fulbright Opposes Labor Amendments

R. C. Fulbright, appearing before the House committee for the National Industrial Traffic League on May 18, devoted much of his time to opposing some of the amendments that had been urged by the railway labor organizations, saying that they had suggested "such vast and varied subjects and administrative provisions that one is led to suspect that their strategy is that if they cannot defeat the measure altogether they may so load it down with these provisions as to make it unworkable." The shipping public, he said, is insistent that nothing shall be done which will add unnecessary costs or that will detract from efforts to eliminate every waste, consistent with the public interest. Mr. Fulbright strongly supported the provision in the bill providing for methods of bringing about economies that might help to make possible reductions in railway rates but he objected to the provision under which the co-ordinator might issue orders not recommended by the regional committees. He also took occasion to oppose the amendment suggested by C. E. Cotterill, general counsel of the American Highway Freight Association, providing for an entering wedge in the direction of regulation of highway and water transportation. He said that Mr. Cotterill represented only a small proportion of the truck operators and that this was not the time to "slip through the back door" the big question of truck regulation, because "we shippers have got something to say about that."

"What is the situation with these railroad labor organizations?" he asked. "They maintained their rates of pay at the boom-time levels until February 1, 1932, at which time they took a reduction of 10 per cent. There is no industry in this country that has been able to maintain its employees without reductions of far more than 10 per cent.

Finds Railroad Costs Out of Line

"The main trouble with the railroads today is that they have not deflated their costs and therefore they are entirely out of line with all other costs, and there are two main reasons why they have not done so, first, because they have been unable to reduce substantially the cost of capital, and, second, the cost of labor. The reorganization bill enacted by Congress, certain provisions of this measure, and other action that is contemplated by the administration, is in the direction of reducing the cost of capital to the railroads. In addition to this it is going to be necessary for them to get rid of all of their unproductive capital as far as possible. We are not asking here that the co-ordinator be endowed with power to cut the rates of pay of the railroad employees but, on the other hand, we recognize that the Railway Labor Act, with its amendments, will still be in full force and effect and that these men will have all of the benefits of that law if they are interested in it.

"It is our frank opinion that the successful future of the railroads is absolutely dependent upon bringing the railroad transportation industry in line with other industries including the competitive industries. This means that they must rigidly economize, and that they must revise their capital structures, and that railroad labor must do its proper share, and we feel that the labor organizations instead of seeking to obstruct efforts of this character should be offering their cooperation in the hope and expectation that they may bring about a resumption of railroad transportation and enable them to get back the lost business, all of which will certainly be to their great advantage. In fact, their counsel stated that if there should be any substantial increase in railroad traffic it will be necessary for the railroads immediately to enter upon a large program of rehabilitation and maintenance and Commissioner Eastman has estimated that the deferred maintenance amounts to more than one billion dollars and may run as high as two billion dollars. (The Department of Commerce has made an estimate which I understand is two billion dollars.) We want to see these railroad employees get more work, we want to see their activities resumed and we do not feel that we are opposing their best interest in the position we take with respect to this measure.

"We cannot believe that our friends representing these railroad employee organizations seriously expect Congress to embark upon all these additional matters, which are broad and untried fields of federal legislation, in an emergency bill we are seeking to put through here in short time for a limited period and certainly they must realize that if they should be put through it will break down the bill and destroy its purpose because the mere temporary provision for all these matters would either

monopolize the attention of the co-ordinator and the regional committees or else it would result in a stalemate and absolute inaction."

There was practically no discussion at the hearings of the rate-making and recapture or holding company provisions of the bill because lengthy hearings had been held on them as separate bills before the House committee last year and a brief hearing had been held recently before the Senate committee. H. T. Newcomb, vice-president and general counsel of the Delaware & Hudson, has prepared a memorandum objecting to those portions of the bill which propose to amend Section 5 of the interstate commerce act, stating that they "seem to have been intended to have the effect of giving new legislative sanction to the so-called 'complete' plan of consolidation promulgated by the Interstate Commerce Commission" and that "there would seem to be no justification for tying the consolidation features of a new statute, passed in 1933, to a defunct plan of consolidation that was 'slaughtered' by its makers in midsummer of 1932." That plan was made under protest, he said, and has always been regarded lightly by the commission, and he took the position that "the incomplete and imperfect plan that actually exists is not a safe or useful guide."

The advisory committee of the Association of Railway Executives met in Washington on Monday to consider the situation created by the amendments made by the Senate committee. On Wednesday C. R. Gray, president of the Union Pacific, J. J. Pelley, president of the New York, New Haven & Hartford, and F. E. Williamson, president of the New York Central, who have been acting as the railroad contact committee in connection with the proposed legislation, called on the President at the White House, accompanied by Secretary Woodin of the Treasury.

I. C. C. Views On What Traffic Will Bear

WASHINGTON, D. C.

AN interesting distinction between the meanings of the terms "value of the service" and "what the traffic will bear," with which some of its members do not agree, was drawn by the Interstate Commerce Commission in its recent decision in the Mountain-Pacific oil rate cases, in which it required some reductions and declined to approve some increases proposed by the railroads in rates on petroleum products. In stating its general conclusions the majority report, representing six members (Commissioners Porter, Tate, Meyer and Mahaffie dissenting), said in part:

Summarizing respondents' position, it is, first, that the rates fixed in the *Utah case* were too low, and that the scales prescribed in the *Rio Grande case* and the *Montana cases* were likewise too low, because they were based on these *Utah case* rates. Aside from this contention, however, respondents argue that their financial situation is now desperate; that they must maintain relatively low rates on much of their traffic, particularly agricultural products and livestock, because it will not bear higher rates; that this justifies the imposition of relatively high rates on traffic which can bear such charges; and that the facts prove that petroleum products in mountain-Pacific territory, except for the shorter distances susceptible to truck competition, can bear not only the rates now charged but even, in many instances, higher rates. So far as truck competition is concerned, respondents urge that they are in a better position than we can possibly be to determine what rates are necessary to meet such competition, and that our proper function under the law is to determine the maximum level above which the rates should not rise and leave to the carriers the discretion of reducing such rates for competitive reasons.

Transportation expenses are now considerably lower than when our decision in the *Utah case,* the *Rio Grande case,* and the *Montana cases* were rendered; and the value of the service to the shipper, as measured by the market value of petroleum products, has decreased. We find no reason to conclude that the rates prescribed in these cases were then, or are now, below a maximum reasonable level, except to the slight extent hereinafter indicated. On the contrary, they appear to have been and to be liberal rates.

We turn, therefore, to the second contention of respondents, namely, that in view of their present desperate financial straits weight should be given to what this traffic will bear, and that it is able to bear not only the present rates but in many instances even higher rates. Respondents are not altogether consistent in this contention, for truck competition is plainly an important element in determining what the traffic will bear, yet respondents wish us to disregard competition and leave them free to meet it in their own discretion. Passing over this partial inconsistency, there are two questions to consider: First, whether we should give weight to what the traffic will bear, and, second, what the traffic under consideration will actually bear.

In determining reasonable freight rates, we have always recognized that consideration should be given, among other things, to what has been called the value of the service. This has never been very clearly defined, and it has been confused with what the traffic will bear. There is some resemblance between the two things, but they are not identical. It has been deemed reasonable that the higher-valued commodities should pay somewhat higher rates, relatively, than the lower-valued commodities, and that the relative burden of transportation cost in the distribution of a product should be taken into account. That is, in substance, what is meant by giving weight to the value of the service. It is equivalent to charging what the traffic can reasonably be required to bear. But charging what the traffic will bear carries this doctrine to an extreme, and we have never recognized that it has any place in public regulation.

The Supreme Court has held that we can not require traffic to be carried at less than cost plus a reasonable profit, regardless of whether the traffic can bear such rates. *Northern Pacific Railway* v. *North Dakota,* 236 U. S. 585. It would be equally unjust to compel traffic to pay rates which yield an exorbitant profit over cost, merely because it can pay such rates and continue to move. Regulation on such a basis would be equivalent to the exercise of the power of taxation.

At the present time the railroads are suffering from a great decline in traffic. Rates which would be reasonable under normal traffic conditions do not become less than reasonable merely because loss of traffic has reduced aggregate profits. The traffic which continues to move can not justly be expected to make good the loss in profits on the traffic which has ceased to move. The remedy to be applied in such a situation is one which will strike at the root of diseased business conditions generally and restore lost traffic. The trouble can not be cured by taxing the traffic which remains.

The evidence shows that the producers of petroleum products as well as the railroads are suffering from present economic conditions. The prices of their products are much lower than when the rates under consideration were originally established. From this point of view the value of the service to them has decreased, and along with this fall in prices has gone a substantial reduction in railroad operating expense.

We agree with respondents, however, that we should not ourselves attempt to adjust rates to meet truck or other competition. The initiative in this respect should be left to the railroad managers, who should be able o appraise the necessity for such reductions more accurately than can we. We shall, therefore, prescribe what we find to be maximum reasonable rates.

Commissioner Porter, dissenting, said the considerations of the majority "afford a poor excuse for the findings based thereon."

They disregard the important element of the value of the service or what the traffic will bear, to which the majority give little or no weight. In the first place, they misconceive the meaning of the two terms when they endeavor to distinguish between them and define the value of the service, in substance, as the recognition that "the higher-valued commodities should pay somewhat higher rates, relatively, than the lower-valued commodities, and that the relative burden of transportation cost in the distribution of a product should be taken into account." As early as 2 I. C. C. 618 the commission gave a much better definition: "The value of the service to a shipper in a general sense is the ability to reach a market and make his commodity a subject of commerce. . . . In a more definite and accurate sense it consists in reaching a market at a profit, being in effect what the traffic will bear to be remunerative to the pro-

ducer or dealer." As late as 115 I. C. C. 322 we said: "The public interest requires that the value of the service, or what the traffic can reasonably bear, be also given important consideration" in determining proper rates on individual commodities. To me the two terms mean the same thing, and the commission has always considered that element, not as the sole criterion with which to measure rates, but as one entitled to receive consideration. I have been referred to no court decision to the contrary.

It seems to me only reasonable and just, more especially in the light of the intent of Congress as expressed in the Hoch-Smith resolution, that since this very same element of what the traffic will bear has forced the carriers or this commission to reduce the rates on most of the agricultural products moving in and from this territory, which products comprise a much greater percentage of the total traffic of the mountain-Pacific carriers than any other commodity or group of commodities, that same element should also be given weight in fixing rates on traffic which in the carriers' estimation can bear higher rates, such as that which we are here considering. How else can these carriers continue to live? I am not unmindful of the hardships of the petroleum industry, but after hearing their witnesses I am convinced that the refining interests which are here concerned are as a whole in better economic condition than are the respondent carriers.

Moreover, gasoline is one commodity upon which the rate level has about as little effect as upon any heavy-moving commodity in the country. The volume of its movement to these mountain-Pacific states since the depression has declined litle, and especially so as compared with the movement of commodities in general. The heaviest movement into Idaho has been under some of the highest rates assailed, those from the north Pacific coast, after standing the expense of a water or rail-and-water movement from California. Following a reduction by about 27 per cent, on the average, of the rates in effect from Wyoming to Montana as a result of the Montana case, the retail price of gasoline at the important Montana destinations affected was actually one cent a gallon higher following the reduction than before. The state tax of 5 cents a gallon in Idaho and Montana would move 15 gallons of gasoline a distance of 840 miles under the Montana scale, and in addition there is a federal tax of one cent a gallon. Despite these heavy taxes the record shows that the gasoline movement has not been retarded nearly as much as has the movement of commodities generally; in fact, the movement into Idaho in 1931, a depression year, was 107 per cent of that in 1929; and I want to call attention to the fact that that movement took place, not under the Montana scale, but under rates many of which were on the same level as those which were reduced by 27 per cent in the Montana case. I believe this record amply demonstrates that petroleum products could stand a modest increase in the rates heretofore prescribed in this territory, excepting only the shorter hauls where truck competition is being felt.

The net result of the action of the majority here will be a material reduction in carrier revenues. I believe that to be a mistake. Certainly the rates prescribed in the Utah, Rio Grande, and Montana cases should be increased sufficiently to offset the reductions required in the Idaho rates.

I am authorized to say that Commissioner Tate joins in this expression of dissent.

What the Buyer of Ties Expects From the Seller*

By D. C. Curtis†

THE buyer expects the seller to:

(1) Select sound trees of suitable size and species to make ties meeting the specifications,

(2) Cut the trees and manufacture the ties at the proper season of the year,

(3) Pile the ties for seasoning on proper foundations, properly stripped and separated as to grades and species,

(4) Assist in low origin inspection costs by (a) providing sufficient good-order cars, spotted to permit uninterrupted loading, (b) providing enough competent tie buckers to load not less than 2,000 ties per day, loading cars to capacity, (c) separating grades before ricking at loading points to protect one grade per carload, (d) protecting against loss of time to inspectors,

(5) Provide careful supervision and instruction to sub-contractors, protecting the agreement as to the percentages of the different grades allowable under the basic order,

(6) Protect green or semi-green ties from weather or location productive of season checks and by generous and proper application of suitable anti-checking irons,

(7) Not expect inspectors to go through rejects of other buyers, or ties stained or sap rotted which might induce incipient decay,

(8) Not have ties slightly undersize on face, thickness or length, suggesting careless sawing or a desire to get a size 4 tie out of a stick that would and should make a size 3 tie,

(9) Offer ties for inspection when and where agreed in order and not at some later date to expect the buyer to change the point of origin or delivery date,

(10) Protect the railway's supervisors or inspectors, in transportation to landings (other than trains) and in actual tie inspection; protect against falling ties, bad footings and careless loaders, chips from barking, etc.,

(11) See that the basic contract is fulfilled to the last detail.

The Three Primary Requisites

These are only incidentals, however, for what the buyer really expects are: (1) Honesty, (2) pride of accomplishment and (3) reward in service.

It is my belief that honesty is a fundamental law of the universe and that where we fail to observe and practice honesty in our transactions, punishment is meted out in extreme penalties which often produce suffering by the innocent and certain destruction to our economic structure which cannot easily be repaired. Ties have been sold to the railroads that gave only 25 per cent of the life normally expected, due to decay, improper treatment or manufacture, and lack of care in storage. Also, in many cases, ties pass through several hands on their way from the producer to the railroad, and if each party practices even slight sharp practice, the aggregate is sufficient to cause the ties furnished to depart from the standards represented to the railroad that bought them.

An honest buyer expects the seller to make a reasonable profit and he is as much disturbed over cut-throat prices as the honest producer is. The buyer knows that he cannot expect to obtain good material for any length of time below its cost of production. When one producer offers to sell me ties for 60 cents, only to have his competitor offer them to me for 55 cents, and then for him to return with an offer of 45 cents, etc., until the price is lowered below the cost of production, this leads to one of two things; either the seller must go broke or else he must furnish an inferior product that will not give the service or do the work that the buyer must have if his railroad is to operate. When we force the honest producer out of business, we buyers will pay and pay.

The buyer does not expect to pay an exorbitant amount; he does not expect to pay for the upkeep of plants that have been built several times the size required to produce a required output; he does not expect to pay for principal and interest on an inflated financial structure; he does not expect to pay the amount necessary to keep an industry alive on account of cut-throat competition, or where the producer sells to other

*Abstract of a paper presented before the fifteenth annual convention of the Railway Tie Association at Richmond, Va., on May 10.

† Chief Purchasing Officer, Chicago, Milwaukee, St. Paul & Pacific, Chicago.

than the railroads at prices below the cost of production and then expects the railroads to make up the difference by paying high prices. The buyer expects to pay a fair price for a good article, based on a sound manufacturing policy and an honest financial structure necessary properly to conduct the seller's business.

Development Period Ended

In the development of the railroads of this country, it was necessary for them to develop also the country through which they ran. Farmers had to be imported, their stock, seed, etc., delivered to them. Manufacturing plants had to be given orders at such prices as would enable them to expand their operations and produce products in sufficient quantities to create a volume of traffic sufficient to meet the operating costs of the many miles of railroad necessary for the development of this vast country of ours. We finally reached the point where all lands were occupied, where our farmers were able, or should have been able, to supply their own needs, where the manufacturer has become so established that his business could be carried on at a profit if he were an economic necessity, without the help of any outside agencies. However, it is surprising to see the number of people who still feel that the railroads should support industry by paying premiums over and above what they are selling their products for in the open market.

Railroad development of its territory reached a definite turning point somewhere between 1920 and 1925. At the time when industry and agriculture reached full development and no longer required help, the railroads, due to over-regulation, subsidized competition, exorbiant taxes and changed requirements, found that the tables had been turned on them and they required at least the help of industry in eliminating unjust taxes on their operating costs, if they are to remain as the chief transportation artery of the nation. So the buyer does not now expect to pay you any premium and if you are to keep him as a customer, you must give him your product at the lowest possible price at which you are able to produce it, with only a moderate profit added thereto.

Pride in One's Work

You must have pride in accomplishment; the buyer expects you to have this pride. When he or his inspector goes out to look at your ties, he expects to see ties manufactured to full size, free from defects, properly piled to prevent decay, properly protected against the destructive forces of nature (such as moisture and heat), and "S" irons or other mechanical devices applied to prevent destructive checking; he expects to see your ties piled by species and grades so that each species may be given proper seasoning, and treatment and applied to the proper place in the track, to give full value received. This can only be done by the producer so supervising his production that the different sizes and species will move automatically without further handling or expense, to the place where they should go. The peculiar part about this is that it can be done by proper systematization without any additional expense to the producer.

The producer should have a thorough knowledge of all the different characteristics of the timber from which he is producing ties. He should know not only the length of time required to season this timber, but he should know the rate of seasoning in each month in the year in his territory for each species. He should know the best kind of treatment for each species of wood and for each service that is to be required of the tie, and when he comes to sell ties to the railroad buyer, he should bring this information with him, backed by sufficient data and experience to show what life and what values are in the produce that he is offering for sale. You ask me how a tie producer in the hills is able to get this information. Associations such as this must be a big factor in assembling this information and disseminating it to its various members.

The buyer for a railroad buys upward of 50,000 different items of material. Producers of individual items have much more opportunity, more years of close association, more practical experience, greater accessibility to the technical laboratories of your institutions of learning, to obtain all the information necessary to prepare your product for use and sale to the best advantage to seller and buyer. There is also real opportunity for conservation for if we get the right tie properly prepared and treated, in its proper place, there is no question but that we shall conserve our forests to the fullest extent and at the same time, harvest our crop of trees when they are ripe and make the best use of them.

The buyer likes to see the producer enjoy taking him and his inspectors to his plant, to his yard, to his woods, and point with pride to the product that he is turning out, its quality, its arrangement, its protection, and the possibilities of the service that it will render. If the buyer and the producer can both be proud of the ties that are being furnished, everyone will be assured that all provisions of the contract have been fulfilled.

The ties that we produce today take months to season; months and perhaps even one or two years before they are put in service and then several years to determine whether we have been justified in our pride regarding the ties furnished. If tie producers are to remain in business, they must establish service records to show that the ties they propose to furnish will give a service life that justifies their cost. This reward of service determines whether your business is to continue or suddenly go to destruction. If the service cost is too high, it is sure to force a substitution for the tie.

My lumber buyer had the privilege of taking a tie producer, a treating plant manager, and a treating plant superintendent on a short motor trip over part of a division of our railroad. He showed them where ties were decayed after a few years of service on account of defects and on account of improper treatment; he showed them the service that was required of ties. He took them into the dispatcher's office where they saw the difficulties of getting trains over the tracks at the speeds required today, and where slow orders were necessary on account of poor ties, making it very difficult to meet schedules. To supply the needs of low inventories maintained by our customers requires high speed and quick delivery. Good ties are a very important part of a track that makes speed possible and railroad operation profitable.

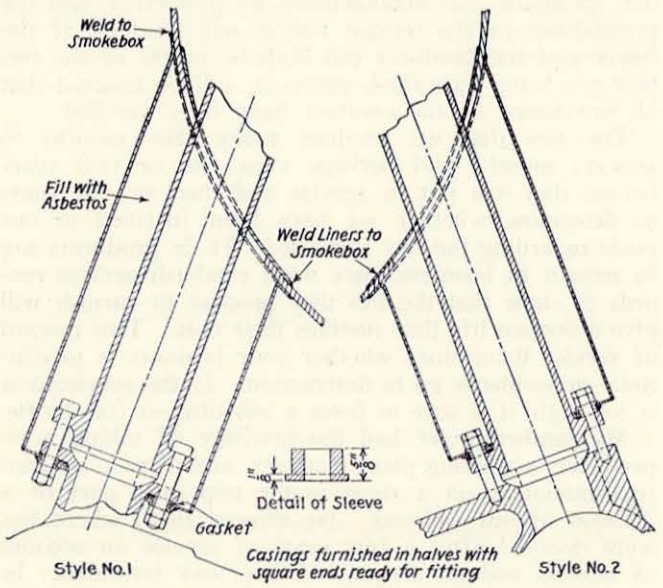
Discussion

In discussing this paper, C. C. Warne, assistant purchasing agent, New York Central, stressed the fact that ties are one of the few commodities which a railway buys which are produced solely for the roads. Because of this fact, he urged uniform standards of production in areas where two or more roads buy. He also urged more uniform purchasing as an aid in lowering production costs. He suggested likewise a common procurement agency for roads buying in a common producing area. B. N. Johnson, B. Johnson & Son, Richmond, Ind., stressed the necessity of producers being given more assurance of the extent of future demands if they are to meet the requirements set up by Mr. Curtis.

New Locomotive Steam Pipe Casing

AN improved locomotive steam pipe casing, invented by H. E. Riccius, master mechanic of the Chicago, Milwaukee, St. Paul & Pacific at Miles City, Mont., has been perfected and placed on the market recently by the Wilson Engineering Corporation, Chicago, following a series of extensive service tests on two western carriers which have adopted it as standard practice. The principal object of the new casing is to provide a relatively inexpensive and effective means of insulating outside steam pipes and, at the same time, prevent air leaks into the locomotive front end, due to expansion, contraction or vibration of the steam pipes.

The casing, as shown in the illustration, is furnished in two halves for ease of application, being welded along front and back longitudinal seams. The casing is applied in two different ways, dependent upon the type of cylinder steam pipe connection; whether it has an extended flange and bolted connection, as in style No. 1; or a flush joint with holding studs threaded directly into the cylinder casting, as in style No. 2. With either design, the casing is flanged and welded to the smoke box at the upper end, as illustrated, also being provided with a square flange at the lower end, which makes an air-tight joint against the steam pipe flange by means of a special gasket. Bolt sleeves which are a close fit on the holding bolts or studs, as the case may be, transmit the bolt tension direct to the steam pipe flange.



Two Types of the Wilson Locomotive Steam Pipe Casing

The purpose of the bolt sleeves is to permit drawing up the ground ball joint of the main steam pipe connection, at the same time compressing the gasket which is independent of this main joint, and thus prevent air leaks. Variations caused by expansion and contraction of the steam pipes are provided for by the extended lower flange of the casing. The casings may be filled with asbestos. Liners are fitted to the steam pipes inside the smoke box and welded in place. Dimensions necessary in ordering the casing are shown by letter in the drawing. Unless the hole spacing and also the size are specified, the flanges are furnished blank and undrilled.

While this design of locomotive steam pipe casing, particularly style No. 2, does not permit the ready removal of steam pipes without cutting away the casing, in locomotives of modern design it is seldom necessary to remove the steam pipes except occasionally for a leaky joint, cracked header or other emergency repairs. In that case, the difficulty of occasionally removing light steam pipe casings, even if more or less permanently welded and bolted in place, is far more than offset by the many months of air-tight service which the casings have rendered.

The N. E. L. A. Electrification Report

THE Electrification of Steam Railroads report for 1932 compiled by the Railway Electrification Committee of the National Electric Light Association has been published by the Liquidating Committee of the N. E. L. A., this association having been absorbed by the Edison Electric Institute. As usual, the report is comprehensive and complete and includes several new features. The first part of the report, as in that of the previous year, consists of a brief resumé of the progress made in electrification during the preceding year. It includes electrification developments on 12 railroads in the United States and on railroads in 21 foreign countries.

Data on Electrified Railways of the World

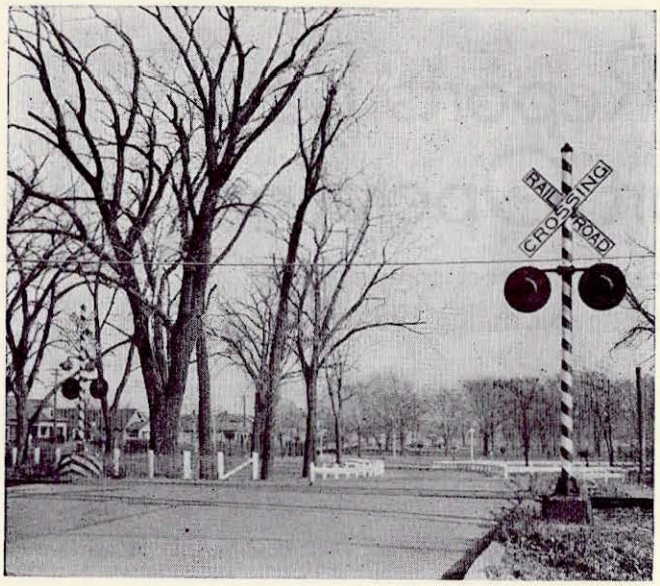
The report contains the usual table, brought up to date, listing for each electrified railroad in the world data covering the mileage, the system used, the year installed, the traffic affected, the reasons for electrification and the results of electrification. A second very elaborate table is also included which lists physical characteristics of operation on all electrified sections of steam railways. These characteristics include tunnels, ruling grade, electric passenger locomotives, electric freight locomotives, electric switching locomotives, electric switching locomotives with auxiliary internal-combustion power plant, electric passenger motor cars, passenger trailers, car capacity, average number of trains daily, average cars per train, maximum cars per train, average schedule speed, train miles per year, car miles per year, freight service, energy supplied and energy used.

The appendix of the report is a history of the Pennsylvania Railroad System as a transportation enterprise. It begins with the granting of a charter in 1815 to John Stevens for the construction of a railroad in the United States and carries the history and development of the railroad up to the present time. A major part of the appendix deals with equipment and practices now in use and covers various phases of railroad activity such as highway and airway service, water transportation, special freight cars and containers and steam and electric motive power. The conclusion is drawn that the integration of the modern all-inclusive transportation system, as represented by the Pennsylvania, has reached a stage where electric motive power points the way to further accomplishment.

Space is also given in the report to gas and oil-electric cars and locomotives, improvements of steam locomotives, developments in passenger and freight cars, air-conditioning, signals and interlocking, electrically-driven maintenance tools, locomotive terminals and shops and electric lighting.

Alton Replaces Crossing Flagmen With Signals

Continuous automatic protection replaces part-time watchman service, with saving of 38 per cent annually on $5,200 investment



View Looking South on Oakridge Avenue

THE Alton has recently installed automatically-controlled flashing-light signals for the protection of four street crossings in Pekin, Ill., at which watchmen were formerly employed during certain hours of the day. This has enabled an annual saving to be effected in operating expense of $2,020, which is a return of 38 per cent on $5,200, the total cost of the new signals.

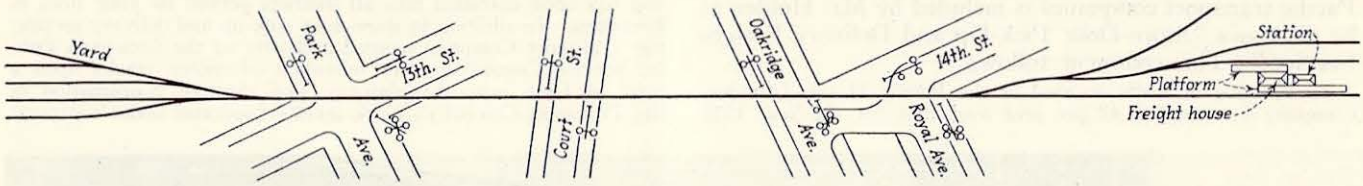
Royal avenue crosses the tracks 600 ft. south of the passenger station, while Fourteenth street intersects Royal avenue just west of the tracks, requiring an extra set of flashers on the east side of the track. Oakridge avenue crosses 150 ft. farther south, a continuation of Fourteenth street connecting with Oakridge avenue, requiring still another set of flashers at this point, as shown on the diagram. Royal and Oakridge avenues carry street traffic between the business and residential sections of the city throughout the year, with additional traffic, both vehicular and pedestrian to and from a park, just east of the tracks, during the summer months. Court street, which carries city traffic as well as through highway traffic, crosses the track 650 ft. south of Oakridge avenue. About 475 ft. farther south, two streets—Park avenue and Thirteenth street—intersect on the tracks, forming a long crossing and requiring three separate signals, one of which has two sets of flashers.

Under the previous arrangement, all four crossings were protected part-time by flagmen. Protection was provided at Court street from 7 a. m. to 11 p. m., requiring two men. One man was on duty at Park avenue from 7 a. m. to 5 p. m. In the summer, a man was on duty at Oakridge avenue from 9 a. m. to 6 p. m.; during the remainder of the year this man was shifted to Park avenue. Although this was the most practical arrangement possible, the protection was not satisfactory on account of the part-time protection and the uncertainty on the part of drivers of vehicles that a crossing was being protected. After several conferences with the local authorities, it was decided that full-time protection with flashing-light signals controlled automatically would be more satisfactory.

As train speed through this territory is limited to 25 m. p. h., control sections of from 840 ft. to 1,800 ft. were adequate to afford at least 30-sec. operation of the signals before a train arrived at the crossing. Unusual conditions at two points required special control circuits. The main-line switch, 25 ft. north of Royal avenue crossing, leads to the freight house and when switching this track a northbound movement is made from the yard south of Park avenue through the control territory on to the house track, the signals at Oakridge and Royal avenues being cut out as the rear of the train passed, due to the interlocking feature in the interlocking relays. Frequently the switch engine would not pass far enough on to the house track to clear the fouling, and would then make a reverse movement over one or both of the streets. In order that the signals might operate for the reverse movement, a special circuit arrangement was installed.

Each of the track circuits is operated by three cells of primary battery, the Edison 500-a. h. type being used, with a Raco adjustable resistance unit in series. The lamps in the flasher-light signals are 8-volt 18-watt. The four signals at Royal and Oakridge avenues, involving a total of 12 lamp units and two pilot lights, normally operate on a-c. commercial current but in case of a power failure these lamps are fed from one set of four 160-a. h. Exide lead storage cells, through a power-off relay. Similar sets are used at Court street and at Park avenue. These batteries are charged by Union RX11 dry-plate rectifiers using Union W-20 transformers.

The flasher-light signals, relays, etc., on the installation were furnished by the General Railway Signal Company. The engineering and construction of this installation was handled by the Alton signal department forces.



The Four Crossings Are Now Protected Full Time by Signals

Motor Transport Section

Railroad Annual Reports Review Motor Transport Operations

Development of co-ordinated services to meet competition of highway motor carriers continued during 1932

RAILWAY efforts to meet motor vehicle competition by the extension of co-ordinated rail-highway services were continued throughout 1932, according to comments included in annual reports of the carriers for last year. As in reports of previous years, many railway executives merely reiterated statements of problems arising from the growth of motor transport and the need for equitable regulation of all transport agencies. Others, however, included more extended comment, some discussing only co-ordinated freight services and others referring as well to bus operations and co-ordinated passenger services. Excerpts from these motor transport discussions in some of the 1932 railroad reports are given herein.

Southern Pacific

Among the more extended comments were those of Hale Holden, chairman of the Southern Pacific. In listing S. P. investments in affiliated companies, he pointed out that "Transport Companies," wholly-owned by the Southern Pacific, provide store-door freight services "at various points along the company's lines, through co-ordination of motor truck service of the transport companies with the rail service of your lines. At December 31, 1932, the transport companies were operating at 895 important stations on your lines, and the service is being further extended as conditions warrant."

More detailed comment on the activities of Southern Pacific transport companies is included by Mr. Holden as he discusses "Store-Door Pick-Up and Delivery Freight Service." This comment follows:

The volume of traffic secured by the Pacific Motor Transport Company increased 43.42 per cent over that for the year 1931. Intrastate operations were extended so that this service is now available to most of the communities served by your lines in California, Oregon, Arizona, and Nevada.

In addition to the three reported last year, the Pacific Motor Transport Company secured from the California Railroad Commission three new highway truck operating rights, two of which were alternate route extensions that permitted the transport company to effect savings in operating time and expenses.

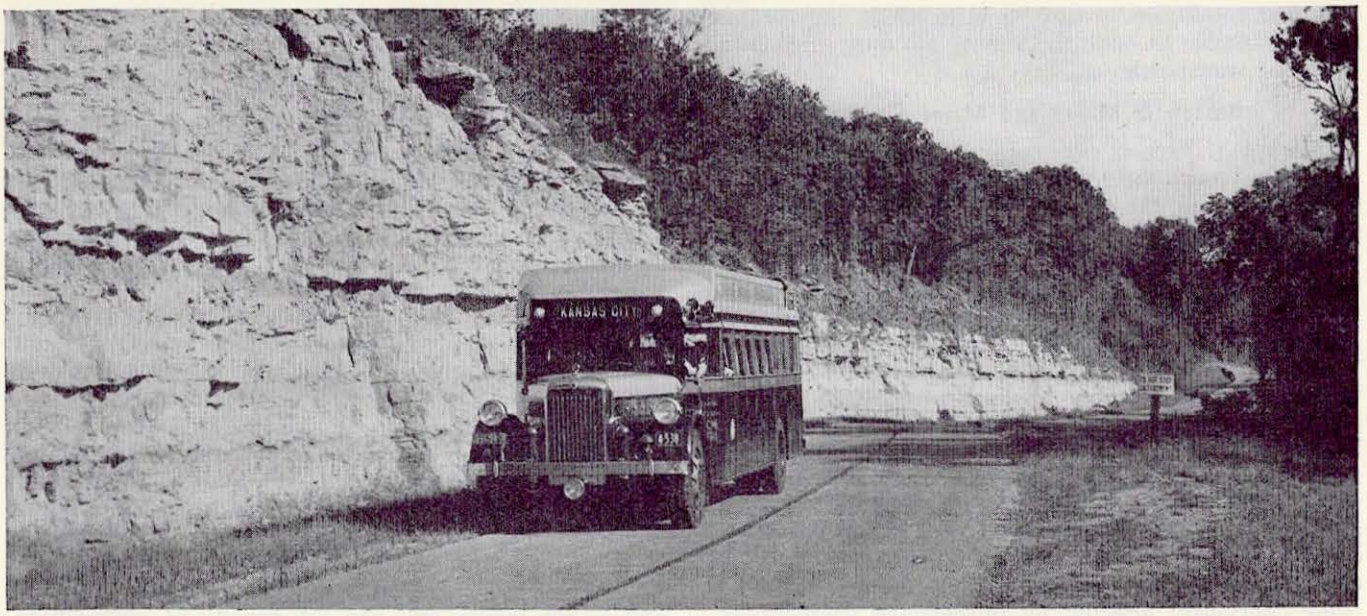
Under an arrangement with the Southern Pacific Company, Pacific Motor Transport Company furnishes on a cost plus basis motor truck service wherever needed and desired by your company, and between a number of points highway truck service has been substituted for steam train service, providing earlier freight deliveries and permitting your company to effect substantial savings in rail operating expenses.

Much of the competitive traffic handled by the Transport Company has been taken from competing motor trucks.

Considerable progress was made in Texas by the Southern Pacific Transport Company in securing new patrons; but the volume of traffic decreased due to general business conditions, and the growing tendency of wholesale houses to extend their own truck deliveries into wider areas. Operations were also affected by lack of enforcement of motor carrier laws enacted by the Forty-second Texas Legislature (1931), this condition growing out of court injunctions granted in many cases brought by motor truck operators competing with the Transport Company. It is believed that the decision rendered by the United States Supreme Court on December 5, 1932, upholding the validity of the Texas truck laws, will substantially eliminate local court interferences heretofore prevailing.

As stated in last year's report, the Southern Pacific Transport Company of Louisiana was incorporated, and commenced operations on April 16, 1932. The service was immediately popular and has been extended into all districts served by your lines in Louisiana. In addition to store-door pick-up and delivery service, the Transport Company secured authority of the Louisiana Public Service Commission for operation of motor trucks upon a total of 1,836 miles of highway, and through coordination of the Transport Company's truck service (operated under contract)

Pick-up and Delivery Trucks of the Pacific Motor Transport Co., Which Had a 43 Per Cent Increase in Traffic Last Year



A Missouri Pacific Transportation Co. Motor Coach Enroute from St. Louis to Kansas City

with rail operations, your Company has been enabled to reduce branch line train service, thus effecting reductions of about 220,000 train-miles a year, with resultant operating savings of approximately $100,000 annually. The new service has fully met expectations in effecting rail operating savings, and is recovering traffic previously lost to highway and waterway carriers.

The total charges to the public for the year 1932 for transportation of shipments handled via rail and truck under the jurisdiction of the three Transport Companies mentioned above, were $2,835,490, and were $636,757, or 28.96 per cent, more than for the two Transport Companies operating in 1931.

Motor coach lines in which the Southern Pacific has a two-thirds interest (the remaining one-third being held by the Pacific Greyhound Corporation, one third of the capital stock of which corporation is held by the S. P.) owned at the close of last year 107 buses, four business cars, eight service cars and 15 motor trucks, operating over 646 miles of bus routes in California in the vicinity of Los Angeles, and in the counties of Orange, Riverside and San Bernardino. Other bus lines in which the S. P. holds one-third interest owned 407 buses, one truck, 24 business cars, and 32 service cars, operating over 9,596 miles of bus routes, extending from Portland, Ore., south through San Francisco, Cal., Los Angeles and San Diego, and east through El Paso, Tex., and Houston, to Lake Charles, La., and extending from San Francisco eastward to Salt Lake City, Utah. "This service," Mr. Holden says, "is operated independently, but, in certain instances, co-ordination of motor bus schedules with the steam train service of your company's rail lines has been effected to the benefit of both, and further co-ordination is being developed when and where conditions warrant."

Discussing in greater detail the operations of these bus affiliates the report, at another point, says:

Pacific Greyhound Corporation and subsidiaries operating most of the important motor bus lines on the Pacific Coast south of Portland and west of Salt Lake City, Utah, and El Paso, Tex., earned net income of $412,960 for the year; an increase of $29,996, or 7.83 per cent, compared with the net income for year 1931. This favorable result was accomplished during a period of falling gross revenues by reducing service as traffic diminished, disposing of equipment not required, thus saving depreciation and maintenance charges, and by obtaining a full year's benefit of lower wage scales made effective in November, 1931.

"Nitecoach" service, using buses with sleeping accommodations, was established between San Francisco and Los Angeles via coast and valley routes, and between San Francisco and Medford, Oregon.

Where diminishing traffic on branch bus lines made it unprofitable to operate standard equipment, arrangements were made to have the service performed by independent operators under suitable contracts whereby those operators agreed to feed traffic to Pacific Greyhound's main bus lines and will not establish any other service in competition with Pacific Greyhound.

Southland Greyhound Lines, Inc., and subsidiaries, operating most of the important motor bus lines in Texas, had a net loss of $143,245 for the year, compared with loss of $126,649 for 1931. Substantial reductions were made in service and operating expenses, but the savings were more than offset by falling off in revenues.

The agreement with other Greyhound Lines making Southland Greyhound part of a new through route between Pacific Coast points and the East, mentioned in last year's report, did not produce the additional business expected, principally because of more intensive competition with independent interstate bus operators who used, as a means of obtaining traffic, payment of excessive commissions and acceptance of whatever fares could be collected.

New York, New Haven & Hartford

The annual report of the New York, New Haven & Hartford reveals that this road's highway subsidiary—the New England Transportation Company—operated during 1932 at a deficit of $142,775 as compared with net income of $16,734 in 1931. Revenues from bus operations declined $572,491 as compared with 1931, but revenues from motor truck services in 1932 were $94,262 greater than those of the previous year. Revenues from "other" operations were off $21,694, and thus the 1932 gross revenues of the New England—$2,989,922—represented a decline of $499,924 as compared with the 1931 gross. Operating expenses were at the same time reduced by $349,429 whereby the drop in net operating revenue was held to $150,495. After adjustments for tax accruals totaling $213,547, an increase of $7,966 over 1931 taxes, and for non-operating income of $5,220, a decline of $4,479 from the previous year, there remained "gross income" of $40,269, or $162,940 less than in 1931. Deductions from gross income, amounting to $183,044, produced the above-mentioned deficit of $142,775. The New Haven's investment in the New England Transportation Company, on December 31, 1932, totaled $3,080,186, consisting of its $1,500,000 of the subsidiary's capital stock, and notes amounting to $1,580,186.

In his general remarks, J. J. Pelley, president of the New Haven, told the stockholders that "further co-ordination of all forms of transportation in which your company is engaged is progressing as rapidly as legal restrictions can be removed. Your transportation system, which includes operation of rail, trolley, water and highway service, is continually being adjusted to meet

changing conditions, with a view to producing the best service possible through the use of the most economical forms of transportation."

Boston & Maine and Maine Central

Edward S. French, president of the Boston & Maine, says that "much time and thought have been and are being given by the management to the practical co-ordination of rail and highway facilities in order to provide better service for shippers and receivers of freight and to bring business back to the rails." In this connection, Mr. French refers to store-door services which the B. & M. has established for l.c.l. freight, and adds that "experiments that give promise of some effective result will continue to be made to meet unregulated and subsidized competition." Operations of the Boston & Maine Transportation Company, the B. & M.'s highway subsidiary, resulted in a net loss of $23,581 for 1932, but they "permitted the railroad to make very large operating savings." Truck operations, despite declining revenues, were conducted at a profit, but bus revenues declined substantially, the long haul interstate business being "seriously affected by unregulated competition." This loss in bus revenue was offset somewhat by the discontinuance of unprofitable routes, which abandonments produced a substantial reduction in expenses.

The annual report of the Maine Central, of which Mr. French is also president, reviews briefly the highway operations of that road's subsidiary, the Maine Central Transportation Company. During 1932 several new bus routes were established so that highway passenger service is now being furnished in Maine between Portland and Bangor, Newport and Dover-Foxcroft, Bangor and Bucksport, and Ellsworth and Bar Harbor. "This extension of service," the report says, "has resulted in profitable operation, so that the Maine Central Transportation Company this year contributed $10,602.83 to Maine Central Railroad Company income as against a loss of $17,418.01 for the year 1931. This is in addition to the savings in rail operation which the company has been able to make by curtailment of unprofitable train service."

Reading and C. N. J.

The Reading Transportation Company, says the report of Charles H. Ewing, president of the parent railroad, operated in 1932 at a deficit of $44,150; gross revenues were $695,927 and operating expenses $740,077. Mr. Ewing points out, however, that highway services in the territory of some of its branch lines "permitted the Reading Company to withdraw several unprofitable steam trains operating therein and to make a considerable saving in railway operating expenses." Two new bus routes, totaling 103.2 route miles, were established during the year—one between Reading, Pa., and West Chester, 40.1 miles, and the other between Williamsport, and Shamokin, 63.1 miles. This brought the total mileage of Reading bus routes to 1,160.3, while truck routes at the close of 1932 covered 889 miles. Eighty-one buses, 17 trucks, 7 tractors and 10 semi-trailers are now included in the Reading's highway fleet.

The 1932 report of R. B. White, president of the Central of New Jersey, says that motor coach and motor truck operations of the Jersey Central Transportation Company were extended last year. "In addition to a co-ordinated system of rail and highway motor transportation between the more important territories served by your company", the report continues, referring to motor truck operations, "a joint service was established with the Reading Transportation Company in the early part of 1932. This service extends from New York and points on your line to the more important points in Pennsylvania, along the lines of the Reading Company." Further, Mr. White calls attention to the severe competition to which the Central of New Jersey's highway services are subjected, and suggests that "until proper regulation is provided, both rail and motor carriers, as well as the public, will pay the penalty of competitive warfare."

Cotton Belt and P. R. R.

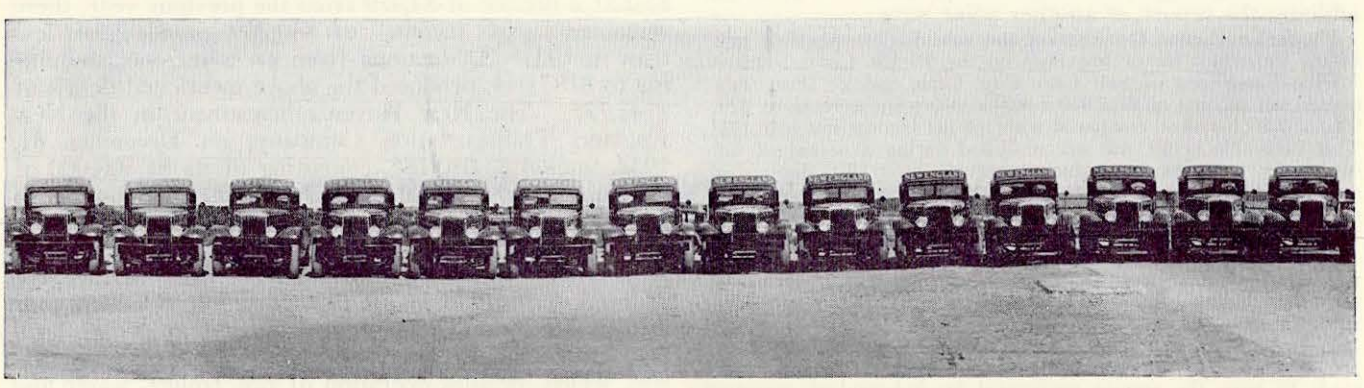
In the annual report of the St. Louis Southwestern, President Daniel Upthegrove calls attention to the fact that the Cotton Belt's highway subsidiary—the Southwestern Transportation Company—operates buses and trucks "parallel to most of the railway company's lines through Missouri, Arkansas, Louisiana and Texas." This subsidiary, he adds, was operated at a profit when resultant savings to the parent railway are considered. During 1932, a total of 135,234 passengers and 40,249 tons of freight were handled in Cotton Belt highway services. Equipment of the Southwestern Transportation Company on December 31 consisted of 59 buses and 65 trucks.

General W. W. Atterbury, president of the Pennsylvania, declares, in his 1932 report, that "co-ordinated transportation continues to be one of the most important present-day problems, requiring for its solution scientific study and treatment, and co-operation on the part of the public and regulatory authorities." After referring briefly to P.R.R. experiments with container operations and trailer and demountable truck body services, he continues to say that l.c.l collection and delivery services, established at a number of points during 1932, "will be extended as conditions warrant."

Sargent Still Convinced That All L. C. L. Should Be Handled by the Express Agency

Another year of experience has convinced Fred W. Sargent, president of the Chicago & North Western, of

(*Continued on page 776*)



Motor Truck Revenues of the New England Transportation Company Were $94,262 Greater in 1932 than in 1931

Vermont Transit Company Trucks Operated Out of Burlington, Vt.

Central Vermont Co-ordinated Service An Effective Traffic Developer

Operations, involving rail, highway and water transport, have brought l. c. l., at certain points, back to 1928-29 levels

CO-ORDINATED door-to-door services for l. c. l. freight, involving rail, highway and water operations, and including as well the handling of competitive merchandise freight in passenger trains, have so developed business for the Central Vermont that its l.c.l. traffic at certain points is now equal to that handled during 1928 and 1929. Inaugurated at a few stations on July 4, 1932, as an experiment, the pick-up and delivery plan has been termed "an astounding success" by Edmund Deschenes, manager of the Central Vermont; it has met with such favor among shippers as to warrant its extension to the majority of C. V. stations in the United States.

Prior to the time when it offered this complete transport service to its patrons the Central Vermont, in common with other railroads, had been confronted with startling losses of l.c.l. traffic. Immediately after the July 4, 1932, inauguration date, however, traffic figures commenced to reveal that the decline had been checked and that the railway was holding its own in the highly competitive struggle with motor trucks for l.c.l. business. Subsequent statistics revealed healthy increases in traffic for each period reviewed and, because of such increases, the co-ordinating plan is no longer regarded as an experiment but is rather characterized to-day as being "of absolute necessity to the economic life of the railway." The aim has been not only to provide a service as good as that offered by the Central Vermont's highway competitors but a service that would be superior.

The set-up, in brief, involves the operation of expedited train services, which are co-ordinated at New London, Conn., with the New York-New London steamboat services of the Central Vermont's marine subsidiary (the Central Vermont Transportation Company), and which tie-up at strategic points along the C. V. line with pick-up and delivery motor trucks. To perform these highway services at Massachusetts and Connecticut points the Railway Express Agency is employed; in Vermont, local truckmen are employed for the most part although in some instances trucks of the Vermont Transit Company, highway subsidiary of the C. V., are utilized.

Plan Built Around Expedited Train Service

The initial step was the speeding-up of freight trains and the selection of a name for the train around the schedule of which the co-ordinating plan was to be developed. The name "Rocket" was chosen for the train in Massachusetts and Connecticut and "Vermont Rocket" in Vermont, and an intensive publicity campaign to make shippers aware of "Rocket" service was launched.

The "Rocket" originates at New London, where connection is made with Central Vermont Transportation Company steamers, and operates to White River Junction, Vt., as one section. At White River Junction it is joined by a connection operated by the Boston & Maine from Boston, Mass., and other B. & M. points. The "Rocket" boat connection is scheduled to leave Pier 29, East River, New York, at 7:00 p.m. while the "Rocket" leaves New London at 1:00 p.m. the following afternoon; connecting cars from B. & M. points leave at various times throughout that evening and reach White

River Junction for consolidation with the New London section at 3:30 the next morning. The train then runs through to Montreal, Que., where it arrives at 6:00 p.m. of the day following its departure from New London. This set-up affords over-night delivery at all C. V. points in Vermont of l.c.l. from Boston and other points on the B. & M., and 36-hr. delivery from New York to the same C. V. points.

Merchandise Freight in Passenger Trains

Supplementary to the foregoing, and in response to demands for further "Rocket" services, there has been installed overnight service in both directions between New York and points on the C. V. Southern division—New London to Brattleboro, Vt. This is the operation which involves the handling of merchandise freight in passenger trains. The outbound freight is concentrated by trucks at various central points where it is loaded into cars equipped to move in passenger trains. These cars are picked up by a local passenger train and delivered at the C. V. pier in New London for re-loading on a steamer for New York at 9:00 p.m. every week night; steamers arrive in New York at 6 o'clock the following morning and thus delivery to consignees may be made by 9 o'clock. On the northward movement merchandise freight leaving New York by steamer in the evening is delivered by train-connection trucks in some Massachusetts and Connecticut points before 9 o'clock the following morning and in other points as far north as Brattleboro, Vt., before 10:30 a.m.

Motor trucks involved in the plan are substitutes for discontinued local freight trains as well as pick-up and delivery vehicles. They operate out of 16 concentration points as follows: New London, Conn., Norwich, Willimantic, Stafford, Palmer, Mass., Amherst, Brattleboro, Vt., White River Junction, Northfield, Randolph, Montpelier, Barre, Waterbury, Burlington, St. Albans and Richford. The C. V. does not provide store-door services in New York although it does, in C. V. territory, pick-up and deliver traffic destined to and coming from New York.

Trucking services are arranged for by a simply-drawn contract which sets forth the nature of the service contracted for, its territorial limits, the compensation and liability of truckmen and provisions for cancellation by either party on three days' written notice. In Vermont, where the Vermont Transit Company trucks operate, it is pointed out that such operations are usually in lieu of way freight trains and that they afford equally as good pick-up and delivery services in the smaller communities as is provided at larger main line points by contract truckmen.

Regular L. C. L. Rates Include Store-Door Service

Aside from a certain few named exceptions all l.c.l. freight is handled in the collection and delivery services and all rates involved are published by the Central Vermont and concurring connecting roads. In effect station-to-station rates have been extended to store doors with the C. V. absorbing the cost of pick-up and delivery. Both l.c.l. class rate and commodity rate tariffs are involved, such tariffs now being applicable locally on the C. V. in New England and jointly between the C. V. and the B. & M. Furthermore, the C. V. is now negotiating with other Northern New England roads and expects in the near future, to have all l.c.l. rates—both class and commodity—made applicable jointly from door-to-door without additional charge. In addition it has been found necessary to establish in numerous instances, particularly from larger wholesale points, all-commodities rates in order to meet highway competition on a more equal basis and in view of the fact that C. V. highway competitors accept all freight without classification at a flat rate.

While, as stated before, it is generally true that the plan extends station-to-station rates to store doors there are certain points, competitive with railroads which have not concurred in the store-door tariffs, at which the C. V. makes a charge for collection and delivery; this charge is also made on freight originating on a non-concurring road. This plan was adopted in order to make the co-ordinated service available to all patrons who may desire it. It is pointed out that some patrons, for example, were unable to understand why the C. V. could legally deliver a shipment originating on the B. & M. when it could not deliver one which originated on a non-concurring carrier. This cartage charge is five cents per 100 lb., minimum 25 cents per shipment. Also, this tariff of cartage charges publishes higher rates, varying with distance, for pick-up and delivery in certain off-line communities which have requested the service.

Generally speaking, it has been the experience of the Central Vermont that the public much prefers dealing with responsible transportation agencies and especially so when such reliable and proven agencies can not only equal but in most cases better the time element in deliveries.

One of the principal drawbacks, however, has been the railway's inability to establish necessary rates promptly, because of the necessary compliance with Interstate Commerce Commission regulations. It is pointed out in this connection that highway competitors are able immediately to quote such rates as are necessary to secure the business, and change these rates at will. Nevertheless the C. V. has found a very gratifying increase in tonnage to be due entirely to the establishment of pick-up and delivery service and it sees indications that this business will not only persist in holding its own but will continue to grow, particularly when general business conditions improve.

Railroad Annual Reports Review Motor Transport Operations

(*Continued from page 774*)

the soundness of his 1931 proposal to the effect that "less than carload business should be handled by all railroads jointly through their present organization, to wit: Railway Express Agency." The railroads, Mr. Sargent thinks, "could recapture the great bulk of the less than carload business through the Railway Express Agency, which would afford a co-ordinated and uniform transportation service offering pick-up and delivery, which shippers now demand."

The Missouri Pacific Transportation Company, the report of President L. W. Baldwin of the M.P. reveals, was, at the close of 1932, operating buses over 4,105 route miles. Additional franchises acquired last year covered 357 route miles, the principal ones involving operations between Jefferson City, Mo., and Springfield, 145 miles, and between Dallas, Tex., and Shreveport, La., 159 miles. Bus operations were abandoned on 208 route miles during 1932 while pick-up and delivery services for l.c.l. freight were re-established in Arkansas and extended to Louisiana.

J. S. Pyeatt, president of the Denver & Rio Grande Western, reports for 1932 that "motor operations for the year, while generally less favorable than the previous year, produced a small net income."

NEWS

North Western and Soo Propose Pooling of Passenger Trains

The Chicago & North Western and the Chicago, St. Paul, Minneapolis & Omaha, also the Minneapolis, St. Paul & Sault Ste. Marie and the Wisconsin Central, have asked the Interstate Commerce Commission to authorize an agreement providing for a pooling of service and division of earnings as to passenger trains operating between Duluth-Superior and Lake regions and Chicago-Milwaukee. Both systems have operated daily passenger trains between these points and it has been customary in the past for the Soo to increase its service during the late spring, the summer and the early fall by an additional train between Rugby Junction, Wis., and Chicago, 236 train-miles daily, which made it necessary for the Omaha to run an additional train between Altoona and Spooner, Wis., 166 train-miles daily. Under the pooling agreement each system will operate one train a day and the earnings will be divided on the basis of 1932 experience; 27 per cent to the Soo and 73 per cent to the North Western. The Soo will also discontinue its individual city ticket office at Duluth and join in the use of the North Western office.

Great Lakes Advisory Board

The Great Lakes Shippers' Regional Advisory Board held its regular meeting at Cleveland, Ohio, on May 18, with an attendance of over 300. C. B. Tefft, traffic commissioner of the Toledo Chamber of Commerce was chosen president for the ensuing year and Frank H. Baer, Cleveland Chamber of Commerce, Cleveland, Ohio, was re-elected general secretary. The reports of the commodity committees gave concrete evidence of an encouraging nature showing a decided upturn in the production of steel, rubber, glass, automobiles, chemicals, foodstuffs and other commodities. There was an interesting discussion of the Emergency transportation act now before Congress. The regional advisory boards throughout the country, being peculiarly representative of the shipping public, their availability as contacts between the public and the co-ordinators (to be appointed) was emphasized in the discussion; and a special committee was established, in anticipation that service of this kind might be mutually satisfactory to the public and to the government.

Representatives of the coal business expect that there will be a ten per cent increase in coal shipments on the lakes this year, as compared with 1932. There are now 93 boats on the lakes, compared with 68 last year this time. Among the hopeful prognostications indulged in was one to the effect that as there have been four million marriages contracted in the country during the last four years, there must ultimately be a considerable increase in the building of new houses.

Are Truck Owners Wise in Opposing All Regulation?

"It seems peculiar that the motor vehicle transportation business . . . has not profited by the experience of more than 100 years of industrial progress. Lack of humanitarian leadership results in many reforms instigated by agencies outside industry. Unpleasant features could have been avoided had industry put its own house in order.

"The Massachusetts Legislature has before it a proposal that no commercial vehicle operator be permitted to operate more than eight hours consecutively without a certain number of hours of rest. The main argument in favor of this measure is that it will reduce the element of fatigue as a cause of accidents. The attitude of commercial vehicle owners at hearings on the subject has revealed nothing but blanket opposition to regulation. Not once have I heard any statement by a fleet representative that would indicate that a real scientific study has been made of this subject and that the commercial vehicle interests really knew just what was the relation of fatigue to motor vehicle accidents.

"Have many of our motor vehicle regulations held as models throughout the country been sponsored by the fleet owners? I think not. We have a legislative proposal before our General Court right now to require the use of red reflectors on the rear of commercial vehicles. This was sponsored by the registry of motor vehicles, rather than the fleet owners or representatives, although we have experienced a number of horrible rear end collisions involving trucks standing by the roadside, according to witnesses, with no tail lights burning."

—From an address by L. A. Blanchard, secretary to Massachusetts Governor's Committee on Highway Safety, reported in the magazine Public Safety.

Industrial Relations Conferences

The Sixteenth Annual Conference on Industrial Relations will be held at Silver Bay on Lake George, N. Y., August 25-26, 1933. The Southern Conference on Human Relations in Industry will be held at Blue Ridge, N. C., July 13-16, 1933. Information about these conferences can be secured from E. C. Worman, industrial secretary, National Council of the Y.M.C.A., 347 Madison Avenue, New York.

Trucking Arrangements for P. R. R. New York Store-Door Services

Eight New York City trucking companies have received contracts to perform the collection and delivery operations involved in the store-door freight services inaugurated on May 1 in New York and its New Jersey suburbs by the Pennsylvania and Long Island. This store-door plan was outlined in detail in the Motor Transport Section of the *Railway Age* of April 22.

The Motor Haulage Company, of Brooklyn, N. Y., will handle carload and l.c.l. freight (except flour) to and from Pennsylvania and Long Island stations in Manhattan, the Bronx and Brooklyn and it will handle all freight, including flour, to and from Long Island stations in the Borough of Queens. Flour will be handled in Manhattan, the Bronx and Brooklyn by the Modern Transportation Company, Inc., and by Luckman Brothers. Other trucking companies having contracts for Manhattan services are the Cerosa Haulage & Warehouse Corporation and E. A. Thompson, Inc., Brooklyn and Queens contracts, in addition to that of the Motor Haulage, are held by L. T. Stevenson, Inc., the Horstman Trucking Corporation and the White Elephant Forwarding Company.

In New Jersey, except at Newark and Elizabeth, one trucking company will operate at each point where store-door services are available. At Newark three trucking companies will operate and for Elizabeth services two are listed.

Meanwhile, on May 15, the United States Supreme Court denied, without comment, the petition of four Brooklyn, N. Y., contract terminals for a writ of certiorari to the United States Court of Appeals for the Third Circuit which latter had upheld an action of the United States District Court at Philadelphia denying the plea of the contract terminals for an injunction to restrain the Pennsylvania from installing the New York services. The plaintiffs were the New York Dock Railway; Bush Terminal; Brooklyn Eastern District Terminal; and Jay Street Terminal. Their contention, now finally dismissed, was that the collection and delivery services constituted an extension of rail lines within the meaning of the Interstate Commerce Act and thus required a certificate of convenience and necessity from the Interstate Commerce Commission.

Freight Traffic in March

Freight traffic handled by the Class I railroads in the first three months of 1933 amounted to 58,308,770,000 net ton-miles, according to reports compiled by the Bureau of Railway Economics. This was a reduction of 9,625,761,000 net ton-miles or

Continued on second left-hand page

Operating Statistics of Large Steam Railways—Selected Items for the Month of March, 1933,

Region, road and year	Average miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (thousands)	Car-miles: Per cent loaded	Ton-miles (thousands): Gross. Excluding locomotives and tenders	Ton-miles (thousands): Net Revenue and non-revenue	Average number of locomotives on line: Serviceable	Unserviceable	Per cent unserviceable	Stored
New England Region:												
Boston & Albany....1933	402	107,751	111,696	7,344	2,758	67.1	138,659	44,506	61	51	45.4	19
1932	402	137,339	144,324	9,822	3,498	63.5	185,116	59,412	67	60	47.2	15
Boston & Maine....1933	2,052	246,279	275,005	21,959	7,384	65.7	412,933	144,882	125	163	56.7	20
1932	2,058	292,666	331,328	29,383	9,044	66.3	491,072	171,952	150	142	48.6	24
N. Y., New H. & Hartf....1933	2,048	311,033	378,378	15,266	9,300	63.8	507,564	177,641	225	129	36.5	47
1932	2,055	363,914	438,214	24,694	11,584	62.8	637,158	224,362	218	127	36.9	17
Great Lakes Region:												
Delaware & Hudson....1933	848	186,491	246,721	27,327	5,587	60.0	355,931	157,660	252	30	10.8	163
1932	848	226,891	297,404	31,639	6,985	59.7	445,150	200,767	246	29	10.5	138
Del., Lack. & Western....1933	998	327,248	355,495	42,224	9,647	63.9	567,522	220,100	203	64	24.1	59
1932	998	362,629	398,203	48,624	11,435	64.5	667,126	265,181	210	56	21.2	41
Erie (incl. Chi. & Erie)....1933	2,316	569,805	592,077	47,469	21,972	61.8	1,357,469	509,521	299	196	39.7	96
1932	2,316	654,022	682,698	57,802	26,704	61.3	1,628,033	603,516	351	140	28.6	116
Grand Trunk Western....1933	1,003	174,795	176,441	1,197	4,088	60.0	243,520	79,128	82	71	46.5	18
1932	1,021	199,200	201,028	1,861	4,891	61.1	287,670	99,420	99	49	33.1	36
Lehigh Valley 1933	1,341	345,338	359,335	29,600	9,890	63.6	600,021	237,263	167	151	47.5	16
1932	1,343	387,827	411,085	36,072	11,059	62.6	670,768	266,582	206	136	39.7	24
Michigan Central 1933	1,965	334,614	334,843	8,736	9,550	58.7	578,515	177,667	129	79	38.2	39
1932	2,115	399,680	399,936	10,393	11,911	58.9	700,326	224,054	125	94	42.9	30
New York Central....1933	6,320	1,204,819	1,284,673	77,167	42,947	59.4	2,659,376	1,029,864	542	606	52.8	67
1932	6,329	1,475,251	1,618,871	91,298	52,909	60.2	3,284,651	1,313,647	670	586	46.7	118
New York, Chi. & St. L....1933	1,661	397,457	413,624	4,965	11,983	61.6	695,302	236,365	120	113	48.5	28
1932	1,660	480,836	492,403	5,278	14,205	59.8	836,618	281,677	161	83	34.0	48
Pere Marquette 1933	2,286	292,410	300,885	1,799	6,255	57.0	414,208	153,207	122	51	29.6	23
1932	2,243	321,015	331,913	2,915	7,397	58.5	473,861	180,286	144	35	19.4	35
Pitts. & Lake Erie....1933	236	44,967	46,465	1,008	1,744	54.7	146,315	77,188	25	46	64.6	7
1932	235	56,589	58,454	878	2,321	56.8	190,577	104,194	49	33	40.1	26
Wabash 1933	2,453	474,115	479,034	8,739	13,450	63.5	766,394	246,030	180	166	48.1	27
1932	2,497	547,415	563,205	12,367	16,164	62.5	915,474	310,366	234	149	38.8	43
Central Eastern Region:												
Baltimore & Ohio....1933	6,283	1,118,171	1,332,767	133,888	30,138	59.5	2,013,956	851,836	782	580	42.6	237
1932	6,277	1,348,192	1,563,199	156,164	37,337	58.4	2,518,395	1,074,727	901	462	33.9	262
Big Four Lines....1933	2,787	533,294	552,287	14,138	14,411	60.1	934,583	403,055	267	180	40.4	31
1932	2,790	664,385	689,005	17,894	18,643	58.7	1,253,738	565,105	229	203	47.0	13
Central of New Jersey....1933	692	138,256	148,719	20,872	4,094	55.2	292,939	136,304	117	61	34.5	62
1932	692	165,249	178,191	24,387	4,737	55.4	329,635	148,820	117	61	34.3	41
Chicago & Eastern Ill....1933	939	162,595	162,747	2,564	3,070	61.2	200,051	83,099	67	97	59.3	26
1932	939	191,714	192,336	3,186	4,142	62.0	273,498	120,982	89	71	44.3	42
Elgin, Joliet & Eastern....1933	446	61,544	61,950	962	1,315	57.7	103,159	48,382	75	15	17.0	31
1932	447	87,972	91,035	3,159	2,108	57.2	174,729	86,907	84	6	7.2	27
Long Island 1933	396	29,884	30,961	13,270	311	52.4	23,856	9,439	30	16	33.9	4
1932	400	39,014	40,789	15,164	455	51.9	33,952	12,865	39	7	15.9	9
Pennsylvania System 1933	10,532	2,253,228	2,501,372	243,548	73,789	61.2	4,871,689	2,080,118	1,699	802	32.1	688
1932	10,536	2,719,424	3,081,221	308,888	89,339	60.7	5,919,052	2,528,745	2,170	375	14.7	979
Reading 1933	1,454	382,281	409,514	39,202	9,442	56.7	696,396	321,595	296	92	23.7	126
1932	1,453	444,575	478,311	46,926	11,389	57.1	831,208	383,545	307	97	24.0	93
Pocahontas Region:												
Chesapeake & Ohio....1933	3,136	684,348	719,030	26,829	26,660	54.7	2,249,600	1,196,629	530	162	23.3	250
1932	3,136	794,265	838,248	32,751	30,225	55.6	2,528,440	1,350,300	550	100	15.4	229
Norfolk & Western....1933	2,223	471,552	484,516	20,063	15,949	60.6	1,222,501	627,760	418	61	12.6	214
1932	2,258	554,678	581,343	27,329	19,754	59.6	1,604,462	831,176	447	39	7.9	200
Southern Region:												
Atlantic Coast Line....1933	5,144	606,030	607,151	8,814	11,974	55.6	668,948	196,743	357	128	26.4	108
1932	5,144	617,485	619,092	9,081	12,783	58.1	709,639	228,499	380	97	20.3	89
Central of Georgia....1933	1,904	189,428	190,193	3,332	3,979	69.8	213,107	79,353	83	57	40.9	..
1932	1,900	193,573	195,576	3,571	4,417	68.0	234,303	86,399	95	51	34.7	1
Ill. Cent. (incl. Y. & M. V.)1933	6,658	1,118,603	1,127,048	19,475	24,508	59.8	1,599,698	632,331	636	312	32.9	39
1932	6,670	1,298,019	1,307,878	21,898	30,922	59.4	2,071,795	845,744	737	181	19.7	73
Louisville & Nashville....1933	5,166	791,224	837,992	18,971	15,826	58.7	1,077,906	484,717	369	332	47.4	73
1932	5,262	950,894	1,010,081	28,760	19,662	57.8	1,375,130	634,558	481	228	32.2	149
Seaboard Air Line....1933	4,373	476,935	496,722	4,546	11,067	59.9	663,573	212,683	236	56	19.2	33
1932	4,437	505,035	512,730	4,627	11,298	61.3	655,267	214,997	257	44	14.6	34
Southern 1933	6,602	993,032	1,003,415	16,811	22,094	66.6	1,188,498	436,862	723	189	20.7	235
1932	6,669	1,096,524	1,107,687	19,116	24,958	65.5	1,367,238	504,773	737	198	21.2	242
Northwestern Region:												
Chi. & North Western....1933	8,443	822,903	862,656	19,108	18,815	63.2	1,110,983	367,061	596	231	27.9	228
1932	8,443	988,113	1,035,444	21,097	22,883	59.9	1,416,318	458,291	646	164	20.2	194
Chicago Great Western....1933	1,463	188,664	189,657	10,970	5,186	57.3	325,376	107,161	58	43	42.6	2
1932	1,459	214,279	214,395	13,499	6,732	61.6	405,772	146,612	64	50	43.5	3
Chi., Milw., St. P. & Pac...1933	11,234	1,008,852	1,058,340	44,884	23,476	60.7	1,481,168	577,326	736	170	18.8	382
1932	11,266	1,203,284	1,270,949	63,655	29,292	59.5	1,863,197	728,921	754	163	17.8	354
Chi., St. P., Minn. & Om..1933	1,714	185,097	189,997	7,819	3,338	68.5	188,704	70,950	137	35	20.3	78
1932	1,714	216,410	228,620	11,010	4,134	64.6	240,405	94,046	145	29	16.4	71
Great Northern 1933	8,426	536,282	539,604	13,287	14,282	65.2	874,862	347,115	471	136	22.4	164
1932	8,311	577,860	582,813	18,868	15,568	65.4	927,236	368,567	473	142	23.1	149
Minneap., St. P. & S. St. M. 1933	4,314	324,376	329,259	1,834	6,011	65.2	345,789	138,399	123	48	28.1	11
1932	4,325	345,960	350,969	4,279	7,231	64.6	402,563	155,377	140	57	28.8	15
Northern Pacific 1933	6,404	435,094	458,974	27,302	11,791	69.9	670,682	277,043	384	135	26.1	106
1932	6,398	471,508	494,994	29,565	13,158	71.3	721,894	294,321	397	119	23.0	105
Oreg.-Wash. R. R. & Nav..1933	2,137	117,892	121,869	7,063	2,811	70.3	153,665	58,290	81	39	32.5	32
1932	2,221	147,741	153,621	10,200	3,318	68.4	187,657	71,244	91	35	27.6	28
Central Western Region:												
Alton 1933	952	173,688	174,177	1,008	3,291	57.8	214,380	78,442	53	50	48.5	10
1932	989	202,559	205,946	1,057	4,233	56.6	277,616	97,255	90	18	17.0	30
Atch., Top. & S. Fe (incl. P. & S. F.)....1933	11,606	1,175,708	1,242,363	43,706	29,249	64.8	1,721,021	586,834	652	276	29.8	274
1932	11,599	1,270,538	1,354,109	51,630	35,001	64.9	2,049,382	686,325	697	216	23.6	294
Chi., Burl. & Quincy....1933	9,157	974,014	1,003,281	23,992	22,651	59.8	1,348,439	534,423	432	153	26.2	69
1932	9,217	1,077,761	1,113,310	34,390	29,682	58.8	1,837,633	807,282	488	123	20.1	62
Chi., Rock I. & Pac. (incl. Chi., Rock I. & Gulf)...1933	8,333	924,460	939,036	4,121	18,767	58.8	1,158,198	397,824	456	154	25.2	119
1932	8,342	1,067,847	1,092,900	6,486	23,945	59.1	1,448,890	494,785	530	134	20.2	143
Denver & R. G. Wn....1933	2,514	151,635	164,204	16,720	4,139	66.5	241,366	95,223	191	47	19.7	74
1932	2,557	159,093	171,856	15,456	4,470	66.3	260,538	103,843	203	39	16.1	79
Los Angeles & Salt Lake...1933	1,240	130,201	143,618	15,849	3,922	71.5	209,656	76,397	71	36	33.6	13
1932	1,240	153,123	170,852	19,183	4,693	69.6	256,776	92,834	89	19	17.6	24
Oregon Short Line....1933	2,452	208,427	216,896	14,067	5,001	62.7	304,122	110,015	135	51	27.4	59
1932	2,495	214,302	224,435	14,807	5,890	65.9	348,435	132,625	154	18	10.5	70
Southern Pacific—Pacific Lines 1933	8,878	804,682	851,752	76,584	23,539	63.3	1,414,438	446,027	513	379	42.4	223
1932	8,918	1,051,162	1,117,659	104,447	30,770	64.3	1,818,796	575,647	572	356	38.4	188
Union Pacific 1933	3,767	643,562	657,804	25,199	20,432	65.2	1,170,501	401,014	359	115	24.3	196
1932	3,768	691,700	706,609	27,222	25,284	68.9	1,377,032	492,352	402	61	13.2	191
Southwestern Region:												
Gulf, Colo. & S. Fe....1933	1,943	175,048	177,171	2,503	3,948	65.0	237,972	97,357	85	35	28.8	25
1932	1,943	182,341	184,425	1,922	4,604	59.3	298,945	119,891	99	27	21.4	35
Mo.-Kans.-Texas Lines 1933	3,282	334,081	335,473	4,458	7,306	61.5	423,896	143,141	153	77	33.6	77
1932	3,282	335,340	336,671	4,431	8,516	59.5	508,485	175,209	161	61	27.6	81
Missouri Pacific 1933	7,385	916,688	938,154	19,497	22,907	62.3	1,400,666	514,935	416	174	29.5	167
1932	7,409	1,109,822	1,129,154	27,661	27,906	59.7	1,747,107	615,127	481	126	20.8	189
St. Louis-San Francisco....1933	5,193	568,508	572,646	6,526	11,794	62.1	714,888	281,863	391	81	17.2	157
1932	5,193	579,050	582,791	6,956	12,860	61.2	772,787	290,511	410	92	18.3	146
St. Louis Southwestern Lines 1933	1,902	186,329	195,599	2,632	4,440	60.3	262,557	82,937	104	29	21.8	30
1932	1,902	189,040	197,172	2,620	4,773	63.9	266,602	84,694	114	29	20.2	43
Texas & New Orleans....1933	4,516	432,560	432,877	3,577	9,151	62.8	540,163	178,159	216	91	29.7	52
1932	4,611	476,276	477,615	1,353	10,242	65.0	593,579	207,847	241	92	27.5	62
Texas & Pacific....1933	1,946	228,911	228,911	1,834	6,464	59.7	403,932	136,291	185	62	25.1	99
1932	1,946	269,711	269,711	1,401	7,227	57.2	456,625	133,933	176	71	28.9	47

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

Compared with March, 1932, for Roads with Annual Operating Revenues Above $25,000,000

Region, road and year	Average number of freight cars on line: Home	Foreign	Total	Per cent unserviceable	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
New England Region:													
Boston & Albany.....1933	4,656	2,990	7,646	36.9	20,817	1,287	413	16.1	188	17.3	3,574	176	34.3
1932	3,976	2,846	6,822	23.7	21,593	1,348	433	17.0	281	26.0	4,770	168	39.2
Boston & Maine.....1933	11,139	6,312	17,451	21.2	23,932	1,688	592	19.6	270	21.0	2,294	114	33.3
1932	11,277	7,052	18,329	12.3	23,252	1,685	590	19.0	304	24.1	2,708	117	39.9
N. Y., New H. & Hartf....1933	17,121	8,698	25,819	8.8	25,267	1,632	571	19.1	222	18.2	2,798	118	35.8
1932	16,173	10,623	26,796	6.7	24,925	1,751	617	19.4	270	22.2	3,522	117	43.3
Great Lakes Region:													
Delaware & Hudson.....1933	12,340	2,043	14,383	3.8	24,995	1,909	845	28.2	354	20.9	5,997	126	31.3
1932	11,636	2,868	14,504	3.7	25,798	1,962	885	28.7	447	26.0	7,635	131	38.6
Del., Lack. & Western.....1933	19,254	3,167	22,421	11.2	25,388	1,734	673	22.8	317	21.7	7,113	153	48.1
1932	19,030	4,056	23,086	7.6	24,855	1,840	731	23.2	371	24.8	8,570	162	54.2
Erie (incl. Chi. & Erie)...1933	36,053	9,916	45,969	5.1	37,635	2,382	894	23.2	358	24.9	7,097	108	41.7
1932	36,259	10,385	46,644	4.0	37,412	2,489	923	22.6	417	30.1	8,406	115	48.6
Grand Trunk Western.....1933	5,761	7,106	12,867	19.5	25,685	1,393	453	19.4	198	17.1	2,545	114	37.5
1932	4,584	8,817	13,401	9.6	25,482	1,444	499	20.3	239	19.3	3,140	119	44.1
Lehigh Valley.....1933	19,966	4,073	24,039	19.3	29,905	1,737	687	24.0	318	20.9	5,708	150	39.5
1932	22,278	4,358	26,636	12.1	28,697	1,730	687	24.1	323	21.4	6,403	153	42.2
Michigan Central.....1933	26,331	17,445	43,776	10.1	32,060	1,729	531	18.6	131	12.0	2,917	128	53.3
1932	25,715	17,306	43,021	7.1	31,994	1,752	561	18.8	168	15.2	3,417	122	60.4
New York Central.....1933	82,324	53,179	135,503	26.6	34,315	2,207	855	24.0	245	17.2	5,257	108	38.3
1932	81,616	69,470	151,086	15.4	33,513	2,227	890	24.8	280	18.8	6,695	107	43.9
New York, Chi. & St. L...1933	15,127	5,348	20,475	12.6	31,065	1,749	595	19.7	372	30.6	4,592	110	57.9
1932	15,819	6,090	21,909	10.9	28,832	1,740	586	19.8	415	35.0	5,473	113	65.8
Pere Marquette.....1933	13,707	4,121	17,828	2.4	24,976	1,417	524	24.5	277	19.9	2,162	101	56.5
1932	**13,260**	**4,126**	**17,386**	3.5	24,800	1,476	562	24.4	335	23.4	2,593	104	60.5
Pitts. & Lake Erie.....1933	17,798	6,456	24,254	30.6	47,092	3,254	**1,717**	**44.3**	103	4.2	10,571	124	21.8
1932	18,761	6,099	24,860	21.2	41,206	3,368	1,841	44.9	135	5.3	14,292	108	23.2
Wabash 1933	18,911	7,628	26,539	5.0	33,423	1,616	519	18.3	299	25.8	3,235	121	45.5
1932	19,197	7,948	27,145	4.8	31,973	1,672	567	19.2	369	30.7	4,010	127	48.5
Central Eastern Region:													
Baltimore & Ohio.....1933	98,002	14,972	112,974	14.2	24,141	1,801	762	28.3	243	14.5	4,374	163	34.7
1932	95,085	15,478	110,563	11.2	23,997	1,868	797	28.8	314	18.6	5,523	164	40.7
Big Four Lines.....1933	20,420	18,108	38,528	20.3	31,016	1,752	756	28.0	337	20.1	4,665	127	40.9
1932	22,714	18,140	40,854	12.9	31,489	1,887	851	30.3	446	25.1	6,533	119	52.7
Central of New Jersey.....1933	17,997	5,463	23,460	25.3	27,547	2,119	986	33.3	187	10.2	6,354	136	30.7
1932	17,869	5,933	23,802	19.6	26,003	1,995	901	31.4	202	11.6	6,935	159	36.7
Chicago & Eastern Ill.....1933	6,136	1,788	7,924	17.9	22,171	1,230	511	27.1	338	20.4	2,855	147	32.5
1932	5,917	2,229	8,146	14.4	24,496	1,427	631	29.2	479	26.5	4,157	142	39.3
Elgin, Joliet & Eastern....1933	9,924	3,766	13,690	21.9	14,775	1,676	786	36.8	114	5.4	3,499	133	22.5
1932	9,557	3,504	13,061	9.4	16,984	1,986	988	41.2	215	9.1	6,271	130	33.8
Long Island 1933	784	3,159	3,943	1.8	5,898	798	316	30.4	77	4.9	769	298	31.0
1932	777	4,337	5,114	.7	6,473	870	330	28.3	81	5.5	1,037	350	39.2
Pennsylvania System.....1933	252,749	38,303	291,052	9.3	30,644	2,162	923	28.2	231	13.4	6,371	135	35.4
1932	248,975	45,339	294,314	6.6	30,269	2,177	930	28.3	277	16.1	7,742	139	43.0
Reading 1933	40,164	6,366	46,530	17.6	22,789	1,822	841	34.1	223	11.6	7,135	156	37.4
1932	38,841	8,139	46,980	6.0	22,599	1,870	863	33.7	263	13.7	8,516	152	41.9
Pocahontas Region:													
Chesapeake & Ohio.....1933	47,023	6,466	53,489	1.3	45,794	3,287	1,749	44.9	722	29.4	12,310	86	34.8
1932	46,233	6,221	52,454	3.5	43,096	3,183	1,700	44.7	830	33.4	13,891	88	43.2
Norfolk & Western.....1933	42,146	3,708	45,854	3.0	38,699	2,593	1,331	39.4	442	18.5	9,108	128	34.0
1932	40,671	3,785	44,456	.9	41,463	2,893	1,498	42.1	603	24.1	11,875	120	40.4
Southern Region:													
Atlantic Coast Line.....1933	28,725	5,948	34,673	15.2	20,517	1,104	325	16.4	183	20.1	1,234	118	41.0
1932	28,682	7,362	36,044	7.8	20,261	1,149	370	17.9	204	19.7	1,433	121	42.5
Central of Georgia.....1933	7,457	1,505	8,962	23.9	20,057	1,125	419	19.9	286	20.5	1,345	132	44.6
1932	8,077	1,654	9,731	23.5	20,214	1,210	446	19.6	286	21.5	1,467	133	44.0
Ill. Cent. (incl. Y. & M. V.).1933	55,017	11,218	66,235	25.9	24,239	1,430	565	25.8	308	20.0	3,064	151	39.0
1932	54,098	11,773	65,871	16.9	24,708	1,596	652	27.4	414	25.5	4,090	145	46.7
Louisville & Nashville.....1933	54,845	5,386	60,231	23.9	20,399	1,362	613	30.6	260	14.4	3,027	157	39.4
1932	52,867	6,009	58,876	16.4	21,436	1,446	667	32.3	348	18.6	3,890	157	47.3
Seaboard Air Line.....1933	13,546	4,922	18,468	5.4	22,781	1,391	446	19.2	371	32.3	1,569	126	55.4
1932	15,363	5,637	21,000	4.4	20,626	1,297	426	19.0	330	28.3	1,563	132	55.5
Southern 1933	32,047	16,238	48,285	17.0	19,676	1,197	440	19.8	292	22.2	2,135	158	36.1
1932	43,892	21,609	65,501	14.2	20,018	1,247	460	20.2	249	18.8	2,442	158	38.9
Northwestern Region:													
Chi. & North Western....1933	46,920	16,225	63,145	9.5	21,059	1,350	446	19.5	188	15.2	1,402	140	34.4
1932	45,652	17,571	63,223	6.4	20,823	1,433	464	20.0	234	19.5	1,751	145	42.1
Chicago Great Western....1933	4,589	2,487	7,076	12.9	30,237	1,725	568	20.7	489	41.3	2,362	145	63.7
1932	5,125	3,356	8,481	10.5	30,657	1,894	684	21.8	558	41.6	3,242	143	64.7
Chi., Milw., St. P. & Pac..1933	62,932	11,361	74,293	3.6	22,913	1,468	572	24.6	251	16.8	1,658	133	39.3
1932	63,761	12,256	76,017	3.0	23,100	1,548	606	24.9	309	20.9	2,087	137	47.0
Chi., St. P., Minneap. & Om. 1933	2,314	6,054	8,368	10.9	15,336	1,019	383	21.3	274	18.8	1,335	149	37.1
1932	2,227	7,517	9,744	8.8	16,505	1,111	435	22.7	311	21.2	1,770	135	44.5
Great Northern.....1933	44,789	7,470	52,259	5.8	24,626	1,631	647	24.3	214	13.5	1,329	138	29.4
1932	45,027	7,922	52,949	6.1	23,242	1,605	638	23.7	225	14.5	1,431	147	31.5
Minneap., St. P. & S. St. M. 1933	19,951	2,250	22,201	3.8	16,829	1,066	427	23.0	202	13.5	1,035	121	62.5
1932	20,527	2,720	23,247	4.6	17,392	1,164	449	21.5	216	15.6	1,159	123	58.2
Northern Pacific.....1933	43,750	3,404	47,154	10.9	23,830	1,541	637	23.5	190	11.5	1,396	155	30.2
1932	42,502	3,793	46,295	9.6	22,194	1,531	624	22.4	205	12.9	1,484	164	32.8
Oreg.-Wash. R. R. & Nav..1933	8,232	1,417	9,649	9.0	21,216	1,303	494	20.7	195	13.4	880	148	34.7
1932	9,313	1,660	10,973	5.7	19,772	1,270	482	21.5	209	14.3	1,035	165	41.8
Central Western Region:													
Alton 1933	3,939	5,337	9,276	15.6	25,482	1,234	452	23.8	273	19.8	2,659	138	54.9
1932	4,306	3,765	8,071	6.0	26,146	1,371	480	23.0	389	29.9	3,173	137	61.8
Atch., Top. & S. Fe (incl. P. & S. F.).....1933	68,830	7,216	76,046	10.6	27,489	1,464	499	20.1	249	19.1	1,631	119	44.7
1932	68,863	9,297	78,160	10.6	28,779	1,613	540	19.6	283	22.3	1,909	114	49.7
Chi., Burl. & Quincy.....1933	44,539	10,689	55,228	10.0	24,295	1,384	549	23.6	312	22.1	1,883	131	56.7
1932	46,441	11,855	58,296	6.0	26,599	1,705	749	27.2	447	27.9	2,826	131	60.6
Chi., Rock I. & Pac. (incl. Chi., Rock I. & Gulf)....1933	41,814	9,740	51,554	17.3	21,606	1,253	430	21.2	249	20.0	1,540	149	49.9
1932	42,044	10,363	52,407	12.6	22,243	1,357	463	20.7	305	24.9	1,913	154	53.4
Denver & R. G. Wn.....1933	14,437	2,125	16,562	4.5	24,263	1,592	628	23.0	185	12.1	1,222	175	24.5
1932	14,246	3,009	17,255	3.5	23,423	1,638	653	23.2	194	12.6	1,310	173	24.9
Los Angeles & Salt Lake..1933	4,864	1,014	5,878	7.0	28,922	1,610	587	19.5	419	30.1	1,987	149	48.3
1932	5,121	971	6,092	3.0	28,088	1,677	606	19.8	492	35.7	2,415	146	57.0
Oregon Short Line.....1933	10,248	3,443	13,691	17.3	24,453	1,459	528	22.0	259	18.8	1,447	125	40.1
1932	9,990	4,595	14,585	7.4	25,816	1,626	619	22.5	293	19.8	1,715	120	44.8
Southern Pacific—Pacific Lines 1933	41,568	20,470	62,038	12.3	28,874	1,758	554	18.9	232	19.3	1,621	115	33.6
1932	45,074	20,747	65,821	11.6	27,206	1,730	548	18.7	282	23.5	2,082	118	42.5
Union Pacific.....1933	26,365	6,261	32,626	20.6	39,983	1,819	623	19.6	396	31.0	3,434	121	46.5
1932	24,089	7,118	31,207	12.0	39,509	1,991	712	19.5	509	37.9	4,215	122	51.2
Southwestern Region:													
Gulf, Colo. & S. Fe.....1933	13,827	1,698	15,525	4.9	23,115	1,359	556	24.7	202	12.6	1,616	116	48.3
1932	14,091	2,308	16,399	4.4	26,011	1,639	658	26.0	236	15.3	1,990	110	47.8
Mo.-Kans.-Texas Lines.....1933	10,682	2,340	13,022	5.6	22,995	1,269	428	19.6	355	29.5	1,407	106	47.6
1932	12,101	2,581	14,682	4.6	25,571	1,516	522	20.6	385	31.4	1,722	101	49.5
Missouri Pacific.....1933	28,105	13,167	41,272	14.4	27,242	1,528	562	22.5	402	28.8	2,249	138	52.4
1932	31,663	10,614	42,277	14.3	26,823	1,574	554	22.0	469	35.7	2,678	132	61.5
St. Louis-San Francisco...1933	26,294	4,117	30,411	4.6	21,557	1,257	496	23.9	299	20.2	1,751	143	39.6
1932	28,467	5,035	33,502	3.4	21,400	1,335	502	22.6	280	20.2	1,805	144	37.9
St. Louis Southwestern Lines 1933	**4,731**	**2,304**	7,035	**10.7**	25,319	1,409	445	18.7	380	33.8	1,406	115	48.2
1932	6,040	1,887	7,927	10.0	24,090	1,410	448	17.7	345	30.4	1,437	113	45.2
Texas & New Orleans.....1933	9,343	10,900	20,243	6.8	21,255	1,249	**412**	19.5	284	23.2	1,273	97	45.9
1932	12,609	10,081	22,690	7.8	20,166	1,246	**436**	20.3	295	22.4	1,454	102	46.4
Texas & Pacific.....1933	5,975	4,179	10,154	11.5	28,074	1,765	595	21.1	433	34.4	2,260	86	30.1
1932	5,688	4,328	10,016	14.0	27,489	1,693	497	18.5	431	40.7	2,221	90	35.5

14.2 per cent, under the corresponding period in 1932 and a reduction of 33.3 per cent under the same period in 1931. Railroads in the Eastern district for the three months reported a reduction of 12.6 per cent compared with the same period in 1932, while the Southern district reported a reduction of 10.7 per cent. The Western district reported a decrease of 17.8 per cent.

The volume of freight traffic handled in March amounted to 19,310,550,000 net ton-miles, or a reduction of 4,193,181,000 net ton-miles or 17.8 per cent under the same month in 1932, and 35.5 per cent under March, 1931. In the Eastern district, the freight traffic handled in March was a reduction of 18.8 per cent compared with the same month in 1932, while the Southern district reported a decrease of 16.6 per cent. The Western district reported a reduction of 16.9 per cent.

C. & E. I. Moves Chicago Freight and Passenger Office

The Chicago & Eastern Illinois has moved its Chicago city freight and passenger office to 135 South LaSalle street.

New York Railroad Club Outing

The annual golf tournament and field day outing of the New York Railroad Club will be held at the Westchester Country Club, Rye, N. Y., on Thursday, June 29.

Correction

In the *Railway Age* of April 22, page 593, a table was published which erroneously showed the percentage of freight locomotives unserviceable on the Norfolk & Western as 50.8 in 1932 and 52.7 in 1929. These figures should have read 10.5 per cent and 10.2 per cent respectively.

No Conclusion on Passenger Fares

Eastern railway executives, meeting in New York on May 19, reached no conclusions following their discussion of the passenger fare question. A statement issued after the meeting reads as follows:

"The question of passenger fares in Eastern territory which has been the subject of study by traffic executives and passenger traffic officers under the direction of the presidents was further discussed by the presidents of eastern lines today but without reaching a definite conclusion."

Northern Pacific Promoting Alaska Tours

The Northern Pacific, in conjunction with the Alaska Steamship Company, is conducting an aggressive national advertising campaign to promote vacation trips to Alaska. A circular recently issued in connection with the campaign calls attention to the fact that: "Railroad men of America can enthusiastically promote vacation trips to Alaska because after you interest your customers, they will not thank you and then drive in their own cars. No auto highways run to Alaska; rail and steamship tickets are essential." The circular further states that the railroad and the steamship company expect to carry on until Alaska is a "household word" and a visit there is the desire of every American traveler.

Milk Rates to New York to be Reduced

Railroads serving New York, following conferences with milk dealers concerning rates and the diversion of milk to competing transportation services, have published reduced rates, effective July 1, on milk to New York and vicinity; the average reduction to be about 19 per cent. Under the new rates, milk in 40-quart cans, moving l. c. l. will be reduced 15 per cent; and the same in carloads will be taken at 80 per cent of the l. c. l. rate; and on milk in tank cars 70 per cent of the l. c. l. rates in cans.

Rail Testimony Begins in Freight Rate Investigation

Testimony on behalf of the railroads in connection with the Interstate Commerce Commission's rate investigation was begun on Thursday, May 25. R. H. Aishton, the first witness, expressed the belief that the interests of all concerned will be better served by a continuation of adjustments of specific rates to fit the needs of each particular situation rather than by any horizontal reduction in rates, saying that railroad managements can continue to be relied upon to do their part in meeting needs of industry.

Air Conditioning on the Missouri Pacific

The Missouri Pacific will, on June 1, place air-conditioned cars on some of its principal trains. The Sunshine Special will have air-conditioned de luxe lounge cars between St. Louis, Mo., and El Paso, Tex., and air-conditioned dining cars between St. Louis and Poplar Bluff, Ark., and between Longview Junction, Tex., and San Antonio. In addition, new type Spanish lounge cars will be used on the Sunshine Special between Longview Junction and San Antonio. The Scenic Limited will be provided with air-conditioned dining cars between St. Louis and Osawatomie, Kan.

Government Reorganization Plan Expected Soon

President Roosevelt and his associates have given some consideration this week to the plan for reorganizing various agencies and bureaus of the federal government and it was expected that the executive orders covering the proposed changes would be submitted to Congress early next week. As submitted to the President some time ago Secretary Roper's plan for a reorganization of the Commerce Department included proposals for transferring many of the bureaus of the Interstate Commerce Commission as well as other branches of the government dealing with transportation, to a new transportation bureau in the department.

Missouri Commission to Investigate Truck Rates

With a view to taking steps to correct the present "chaotic conditions", the Missouri Public Service Commission has ordered a general investigation of the rates charged by motor truck companies operating in Missouri. The commission will also investigate railroad rates which may be affected by an adjustment of truck rates. The investigation is to begin with a hearing at Jefferson City, Mo., on June 5.

In the past, the commission has allowed common carrier truck lines over which it has jurisdiction to file rates as they saw fit. The purpose of the forthcoming investigation is to determine reasonable and lawful rates to take the place of the haphazard rates now in effect in the state.

Dinner to R. B. White

Roy B. White, whose resignation as president of the Central of New Jersey, to become president of the Western Union Telegraph Company, was noticed in the *Railway Age* of May 13, page 699, was tendered a dinner by the officers and employees of the Central of New Jersey, more than 400 of them, at the Elks Club, Newark, N. J., on Tuesday evening May 23. Presiding at the dinner was W. G. Besler, chairman of the Board of Directors, and among the speakers were George M. Shriver, vice-president of the Baltimore & Ohio, and F. E. Williamson, president of the New York Central; also G. H. Dorr and Hon. Franklin W. Fort, directors of the company. Among the guests was Mr. White's father, J. M. White of Baltimore, Md.

Greyhound Lines Improving Express Service

In a more aggressive effort to increase their express traffic, the Greyhound Lines on May 11 inaugurated through package-express service, using special coaches, between a number of the larger cities on its line between New York, Scranton, Pa., Buffalo, N. Y., Erie, Pa., Cleveland, Ohio, Toledo, South Bend, Ind., and Chicago. The through service is offered at the regular rates applying to express traffic on the Greyhound Lines, which are said to be from 15 to 25 per cent lower than railway express rates. Free pick-up and delivery service is offered at the larger cities served. Delivery is made on the day of shipment to destinations within 150 miles, while first-morning delivery is given to points within a radius of 400 miles from the point of origin and second-morning delivery to points 1,000 miles away.

Bargain Week-Ends on Southern

Six week-ends of one-cent-per-mile train-travel bargains will be available to patrons of the Southern during the remainder of this year. These reduced rate tickets will be valid for travel in Pullman cars and round-trip Pullman tickets at a 25 per cent reduction will also be sold as part of the plan. The bargain week-ends are to be May 27, July 1, August 4, September 1, October 6 and November 28; liberal return limits are allowed and the service is being exploited with a booklet of cartoons depicting the comforts of train journeys as compared with highway traveling.

Also, the Southern will on June 10 inaugurate its Summer services to the mountain resort section of Western North Carolina. New and additional sleeping car services and all-expense tours have been arranged.

Continued on next left-hand page

SPEED
calls for modern power

A new factor—SPEED—is making all but the most modern locomotives obsolete. « Ten to twenty years ago freight locomotives were built to haul a heavy drag at 15 miles per hour. « But operating conditions today demand freight train speeds of 30 to 40 miles per hour. « Only Super-Power Locomotives with high boiler horsepower can produce the desired result. Retire the obsolete road-cloggers in favor of modern locomotives designed for modern railroading.

LIMA LOCOMOTIVE WORKS
INCORPORATED

LIMA OHIO

National Safety Contest Winners

Winners in the eight groups of the annual steam railway accident prevention contest conducted by the National Safety Council, in which Class 1 railroads in the United States competed, were awarded trophies at a dinner held at the Stevens hotel, Chicago, on May 21. The awards were made by C. W. Bergquist, president of the National Safety Council. The Chicago & North Western was awarded first place in group A with a rate of 1.97 casualties per million man-hours for 1932. Group B recognition was won by the Atlantic Coast Line with a casualty rate of 1.35. Winners of other groups and their casualty rates are as follows: Group C, the Oregon Short Line, 2.96; Group D, the Mobile & Ohio, 1.59; Group E, the Gulf, Mobile & Northern, 2.73; Group F, the Staten Island Rapid Transit Company, 0.75; Group G, the Texas Mexican, 2.01; and Group H, the Houston zone of the Pullman Company, 0.59.

Scheduled Motor Truck Services on Great Northern of Ireland

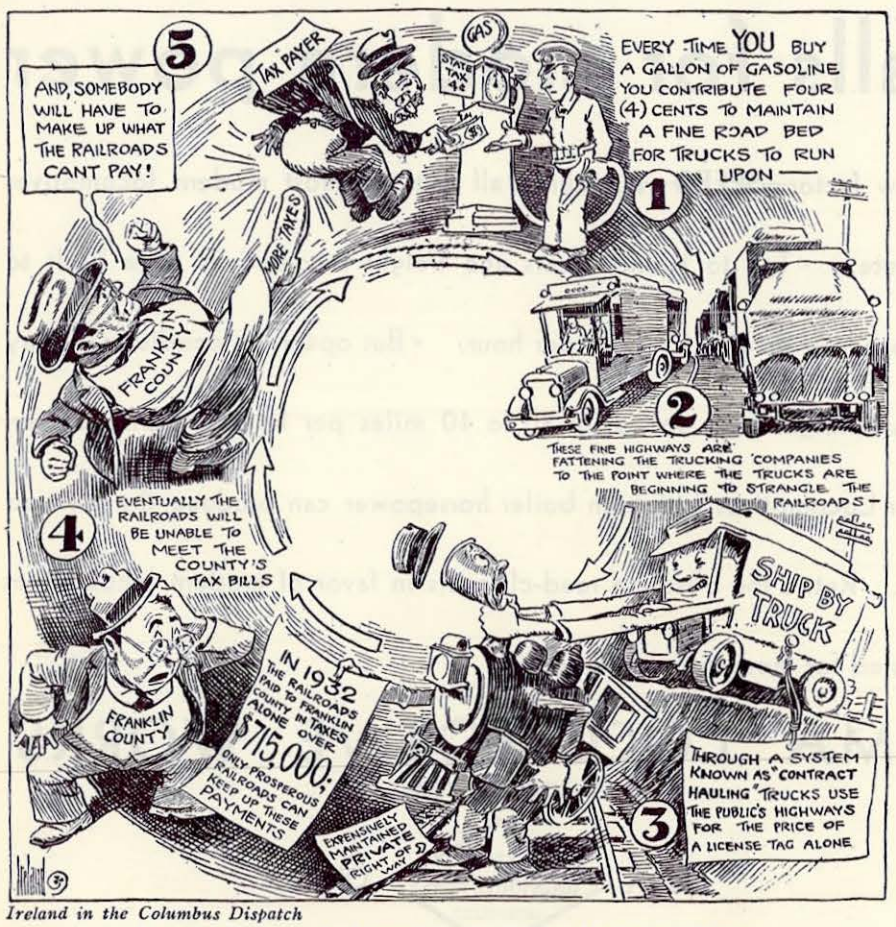
Definite schedules for the trucking operations with which it effects co-ordinated rail and highway freight services is the special feature of the collection and delivery plan in operation on the Great Northern Railway of Ireland. The plan, as outlined in a recent issue of the Railway Gazette (London), is in other respects substantially the same as that of the Great Western of Great Britain, which was described in the *Railway Age* of March 26, 1932, page 533.

Along the rail lines of the Great Northern there have been established 38 railhead distribution centers or concentration points from which truck routes radiate to provide 470 towns and villages with a daily service for both collection and delivery of freight. Rates are on a mileage basis with no classification of commodities save for grass seeds, which is light-loading, and exceptional freight such as explosives. Rates and truck time-tables applying at each concentration point are published in a booklet which includes also a map of the truck routes. Drivers are required to report arrival and departure times and explain any failure to maintain the truck schedules.

The importance of the truck-scheduling feature, the Railway Gazette article says, "cannot be exaggerated for it is felt that it must play a very important part in establishing these services on a sound and lasting basis, and enabling them to secure a regular flow of traffic." It is pointed out in this connection that the scheduling feature has already brought to the railway much traffic, such as daily papers for delivery in villages, and, in the Irish Free State, mail-carrying contracts.

At the railheads or on-rail concentration points the truck operations co-ordinate with fast rail-freight services to and from the larger cities and between the concentration points themselves. At present 92 trucks of various sizes and types are assigned to the service.

* * * *


5
AND, SOMEBODY WILL HAVE TO MAKE UP WHAT THE RAILROADS CANT PAY!
TAX PAYER
GAS
STATE TAX 4¢
EVERY TIME YOU BUY A GALLON OF GASOLINE YOU CONTRIBUTE FOUR (4) CENTS TO MAINTAIN A FINE ROAD BED FOR TRUCKS TO RUN UPON —
1
MORE TAXES
FRANKLIN COUNTY
2
THESE FINE HIGHWAYS ARE FATTENING THE TRUCKING COMPANIES TO THE POINT WHERE THE TRUCKS ARE BEGINNING TO STRANGLE THE RAILROADS —
SHIP BY TRUCK
4
EVENTUALLY THE RAILROADS WILL BE UNABLE TO MEET THE COUNTY'S TAX BILLS
FRANKLIN COUNTY
IN 1932 THE RAILROADS PAID TO FRANKLIN COUNTY IN TAXES ALONE OVER $715,000.
ONLY PROSPEROUS RAILROADS CAN KEEP UP THESE PAYMENTS
EXPENSIVELY MAINTAINED PRIVATE RIGHT OF WAY
3
THROUGH A SYSTEM KNOWN AS "CONTRACT HAULING" TRUCKS USE THE PUBLIC'S HIGHWAYS FOR THE PRICE OF A LICENSE TAG ALONE

Ireland in the Columbus Dispatch

How the Taxpayer Is Affected by the Subsidy He Pays to Trucks

Equipment and Supplies

LOCOMOTIVES

THE PHILIPPINE RAILWAY COMPANY has ordered one 2-6-0 type locomotive from the Baldwin Locomotive Works.

THE NORTHAMPTON & BATH, Northampton, Pa., has ordered one 800-hp. oil-electric locomotive with double unit power plant, from the Westinghouse Electric & Manufacturing Company; the mechanical parts were built by the Baldwin Locomotive Works.

PASSENGER CARS

THE UNION PACIFIC has ordered a light-weight, triplex, articulated rail motor car from the Pullman Car & Manufacturing Corporation and Winton Engine Corporation. This unit is described elsewhere in this issue.

IRON AND STEEL

THE NORFOLK & WESTERN will shortly place orders for 10,000 tons of 131-lb. steel rail.

THE ILLINOIS CENTRAL has ordered 100 tons of structural steel for a bridge at Decatur, Ill., from the Mississippi Valley Structural Steel Company.

THE MISSOURI PACIFIC ordered 950 tons of structural steel for a bridge at Myrtle, Ark., from the Stupp Brothers Bridge & Iron Company.

THE NEW YORK CENTRAL will receive bids on May 29 for 7,000 tons of rail. Bids will be received on June 6 for 15,000 tons of steel for the West Side improvements in New York City.

THE PENNSYLVANIA has ordered 23,500 tons of steel rail dividing the order as follows: United States Steel Corporation, 12,460 tons, Bethlehem Steel Company, 9,790 tons, and Inland Steel Company, 1,250 tons. The above calls for 131-lb. and 152-lb. rail and some 150-lb. rail for experimental purposes.

Construction

ALBRIGHT & BRUCETON.—The Interstate Commerce Commission has denied authority to this company to construct a line extending from a point one mile south of Albright, W. Va., to a point 5 miles northeasterly.

NEW YORK CENTRAL.—This company has given a contract to Hoffman & Elias, Inc., New York, for furnishing and installing the electrical wiring and equipment, for the St. John's Park freight terminal, New York City. A contract has also been given to James A. Merritt & Co., Inc., New York, for supplying and installing the heating, standpipe and ventilating systems, for the same terminal.

Continued on next left-hand page

A LITTLE SLACK STARTS A LOT OF TROUBLE

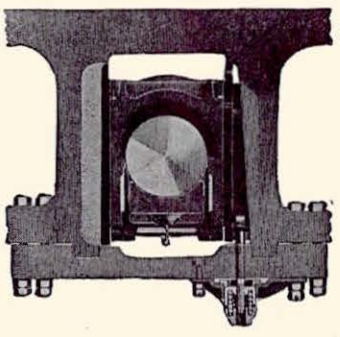
A little slack—a little pound; more slack—a greater pound, and the locomotive is started on the road that leads to the back-shop.

There is just one way to keep the first little slapping slack from growing.

Franklin Automatic Adjustable Wedges are set to eliminate any slack, and as driving boxes warm up, the automatic adjustment which takes place constantly provides for expansion without letting slack creep in. It also provides for normal wear.

All over the country, locomotives are running longer between shoppings by reason of the Franklin Automatic Adjustable Wedge.

FRANKLIN ADJUSTABLE AUTOMATIC WEDGE



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Supply Trade

The **Church Freight Service, Inc.,** has moved its office to 500 Fifth avenue, New York.

The New York City office of the **Bristol Company,** Waterbury, Conn., is now located at 220 East Forty-Second street. **C. W. Williamson,** district manager, continues in charge.

The Edgewater Steel Company, Pittsburgh, Pa., has appointed **H. F. Lowman,** 912 Investment building, Washington, D. C., its representative in that territory, effective June 1.

The Republic Steel Corporation, Youngstown, Ohio, has moved its Buffalo, N. Y., district sales office to 475 Abbott Road. **Thomas B. Davies,** district sales manager, and his present staff will continue in charge at the new location.

Harry E. Seanor, vice-president and district manager of the Chicago region of the **White Company** has been appointed vice-president in charge of leading national account selling in the central west. Mr. Seanor, who will retain his headquarters at Chicago, will be succeeded as district manager of the Chicago region by **Edmund H. Taylor,** who has been manager of the southern New England district with headquarters at Worcester, Mass. **Frank G. Alborn,** assistant chief engineer of the White Company has been promoted to chief engineer of the **White Motor Company.**

The Franklin Railway Oil Corporation whose main office formerly was at Franklin, Pa., has established two territories in the United States—an eastern district with headquarters at 26 Broadway, New York City, and a western district with headquarters at 59 East Van Buren street, Chicago. **R. R. Vinnedge,** vice-president, is in charge of the eastern office and **John E. Ferry,** vice-president, is in charge of the western office. The works are at Franklin, Pa. As in the past the Franklin Railway Oil Corporation will continue to handle sales of lubricating oils and greases to steam railroads for the Socony-Vacuum Corporation, which comprises the following companies: Standard Oil Company of New York, Inc., New York, Vacuum Oil Company, Inc., New York, Magnolia Petroleum Corporation, Dallas, Texas, White Eagle Oil Corporation, Kansas City, Mo., General Petroleum Corporation, Los Angeles, Cal., White Star Refining Company, Detroit, Mich., Wadhams Oil Company, Milwaukee, Wis., and Lubrite Refining Company, St. Louis, Mo.

OBITUARY

I. H. Freund, president, Federal American Cement Tile Company, Chicago, died in that city on May 22 following two weeks' illness.

Financial

ALABAMA GREAT SOUTHERN.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $408,499, compared with net income of $293,278 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	315.14	315.14	
Railway Operating Revenues	$4,090,650	$6,087,004	−$1,996,354
Maintenance of way	640,659	1,213,061	−572,402
Maintenance of equipment	1,244,525	1,472,513	−227,988
Transportation	1,531,962	2,192,940	−660,978
Total Operating Expenses	3,783,412	5,375,690	−1,592,278
Operating ratio	92.49	88.32	+4.17
Net Revenue from Operations	307,237	711,314	−404,077
Railway tax accruals	414,940	470,192	−55,252
Equipment rents	99,830	217,934	−118,104
Joint facility rents	117,478	102,749	+14,729
Operating Deficit	125,808	355,768*	−481,576
Non-operating income	250,057	479,689	−229,632
Gross Income	124,249	835,458	−711,209
Rent for leased roads	19,635	19,540	+95
Interest on funded debt	423,840	423,840	
Total Deductions from Gross Income	485,223	495,383	−10,160
Net Deficit	408,499	293,278*	+701,777

* Income

ATLANTA, BIRMINGHAM & COAST.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $801,898, as compared with net deficit of $906,708 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Railway Operating Revenues	$2,413,794	$3,327,528	−$913,734
Maintenance of way	588,211	821,653	−233,442
Maintenance of equipment	692,839	816,727	−123,888
Transportation	1,148,935	1,603,577	−454,642
Total Operating Expenses	2,998,945	3,893,501	−894,555
Operating ratio	124.22	117.01	+7.21
Net Revenue from Operations	*585,151	*565,973	+19,178
Railway tax accruals	159,847	185,442	−25,595
Railway operating income	*745,345	*753,213	−7,868
Hire of equipment—Dr.	96,408	190,841	−94,432
Joint facility rents	11,168	9,204	+1,964
Non-operating income	60,806	56,915	+3,891
Gross Income	*684,539	*696,298	−11,759
Total Deductions from Gross Income	117,359	210,409	−93,050
Net Deficit	801,898	906,708	−104,809

* Deficit.

BELT RAILWAY OF CHICAGO.—*Annual Report.*—The 1932 annual report of this company shows net loss, after interest and other charges, of $238,174, as compared with net loss of $301,611 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Net Railway Operating Revenues	$3,927,472	$5,244,415	−$1,316,944
Maintenance of way	259,797	341,452	−81,654
Maintenance of equipment	392,716	551,509	−158,793
Transportation	1,943,923	2,542,007	−598,085
Total Operating Expenses	2,748,747	3,592,374	−843,628
Operating ratio	69.99	68.50	+1.49
Net Revenue from Operations	1,178,725	1,652,041	−473,316
Railway tax accruals	463,750	823,755	−360,006
Railway Operating income	713,357	827,652	−114,295
Hire of freight cars—Dr.	144,645	187,977	−43,332
Joint facility rents	804,698	673,733	+130,965
Non-operating income	1,111,167	995,206	+115,961
Gross Income	1,824,524	1,822,858	+1,166
Rent for leased roads	1,757,944	1,740,203	+17,741
Interest on funded debt	6,769	9,234	−2,465
Total Deductions from Gross Income	2,062,699	2,124,470	−61,771
Net Loss	238,174	301,611	−63,437

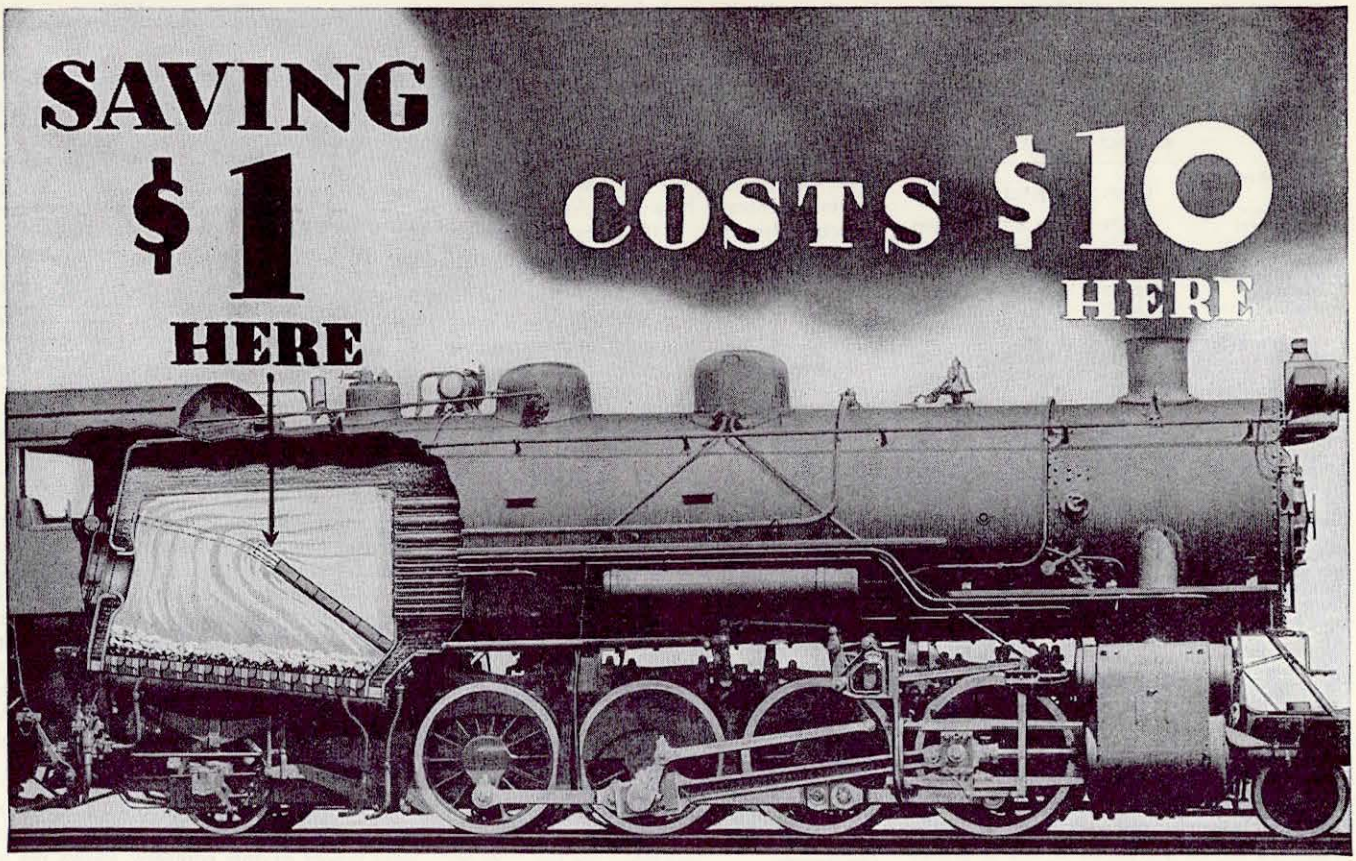
CHESAPEAKE WESTERN.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that part of its railroad between Bridgewater, Va., and Mount Solon, 8.8 miles. Freight traffic on the portion of the line to be abandoned declined from $4,126 in 1928 to $693 in 1932, due to the depletion of lumber resources and to the competition of motor transport.

CHICAGO & NORTH WESTERN.—*Notes.*—The Interstate Commerce Commission has authorized the Chicago, St. Paul, Minneapolis & Omaha to issue $450,000 of Series A and $550,000 of series B first mortgage bonds to be sold to the Chicago & North Western at par and the proceeds used to cancel a like amount of indebtedness. The Chicago & North Western is authorized to guarantee the series A bonds and to pledge both series from time to time as collateral security for short term notes.

CHICAGO, ROCK ISLAND & PACIFIC—ST. JOSEPH & GRAND ISLAND.—*Abandonment.*—These companies have applied to the Interstate Commerce Commission for authority to operate over each others' tracks between Elwood, Kan., and Troy, 14 miles, under a trackage agreement, and for each to abandon half its own line between the two points. The Rock Island proposes to abandon its line for 7 miles out of Troy and the Grand Island for 7 miles out of Elwood.

CHICAGO & WESTERN INDIANA.—*Annual Report.*—The 1932 annual report of this company shows net income, after interest and other charges, of $409,085, compared

Continued on next left-hand page



. . only a complete arch gives full economy

IN 12 years American railroads have lowered the fuel consumption of freight locomotives 30%.

Contributing to this achievement has been the extensive use of fuel-saving equipment such as the locomotive Arch.

If progress is to continue, full use must be made of every element that will save fuel.

Every Arch in every locomotive must have every course in place without a single Arch Brick missing.

The importance of maintaining Arches is apparent when it is realized that for each dollar "saved" in Arch Brick cost, ten dollars of fuel is wasted.

Use a complete Arch for full economy.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.
Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
Locomotive Combustion Specialists

with net income of $320,606 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Railway Operating Revenues	$117,963	$135,555	-$17,591
Maintenance of way	17,051	18,521	-1,469
Maintenance of equipment	56,678	72,777	-16,099
Transportation	126,575	141,740	-15,166
Total Operating Expenses	222,013	243,657	-20,679
Operating ratio	189.02	179.75	+9.27
Net Loss from Operations	105,013	108,102	-3,088
Hire of freight cars—Dr.	1,202	899	+303
Joint facility rents	2,388,022	2,747,044	-359,022
Non-operating income	4,616,983	4,959,745	-342,762
Gross Income	4,511,970	4,851,643	-339,673
Rent for leased roads	133,752	126,635	+7,116
Interest on funded debt	3,264,848	3,284,128	-19,281
Total Deductions from Gross Income	4,102,885	4,531,037	-428,152
Net Income	409,085	320,606	+88,479

Delaware, Lackawanna & Western. *Notes.*—The Interstate Commerce Commission has authorized this company to issue $500,000 of promissory notes to the Railroad Credit Corporation and to pledge as collateral security therefor bonds to the amount of $2,343,000 and such additional amounts as may be required.

Denver & Salt Lake.—*Annual Report.*—The 1932 annual report of this company shows net income, after interest and other charges, of $3,946, as compared with net income of $25,404 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Railway Operating Revenues	*$1,915,469	$2,302,835	-$387,367
Maintenance of way	246,893	358,080	-111,187
Maintenance of equipment	294,125	395,303	-101,178
Transportation	321,236	395,597	-74,361
Total Operating Expenses	979,699	1,303,369	-323,670
Net Revenue from Operations	935,769	999,466	-63,697
Railway tax accruals	162,176	199,657	-37,482
Hire of equipment—Net	38,980	59,573	-20,593
Net Railway Operating Income	812,425	859,359	-46,934
Total Operating and Other Income	974,137	1,246,039	-271,902
Rent for leased roads	397,020	400,748	-3,728
Interest on funded debt	562,500	810,000	-247,500
Total Deductions from Gross Income	970,191	1,220,635	-250,445
Net Income	3,946	25,404	-21,458

* $27,131.02 Increased Revenue from Ex Parte 103 included in above.

Duluth, South Shore & Atlantic—*Trackage Rights.*—This company, the Northern Pacific and the Wisconsin Central have applied to the Interstate Commerce Commission for authorization of an agreement under which the Duluth, South Shore & Atlantic proposes to operate under trackage rights over the line of the Northern Pacific between Ashland and Superior, Wis., 63.5 miles, and over that of the Wisconsin Central between Ashland and Marengo Junction, 12.07 miles, abandoning its own line between Superior and Marengo Junction.

Georgia Southern & Florida.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $109,266, as compared with net deficit of $120,607 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	397.73	397.73	
Railway Operating Revenues	$1,876,618	$2,819,201	-$942,583
Maintenance of way	348,631	597,762	-249,131
Maintenance of equipment	493,572	687,593	-194,021
Transportation	653,112	1,037,229	-384,117
Total Operating Expenses	1,574,239	2,423,752	-849,513
Operating ratio	83.89	85.97	-2.08
Net Revenue from Operations	302,379	395,449	-93,070
Railway tax accruals	174,289	216,561	-42,272
Equipment rents	72,132	17,898	+54,234
Joint facility rents	5,594	5,114	+480
Operating Income	205,525	201,111	+4,414
Non-operating income	14,649	16,296	-1,647
Gross Income	220,174	217,407	-2,767
Interest on funded debt	297,295	296,665	+630
Total Deductions from Gross Income	329,441	338,014	-8,573
Net Deficit	109,266	120,607	-11,341

Great Northern.—*Bond Extension.*—This company and the St. Paul, Minneapolis & Manitoba have applied to the Interstate Commerce Commission for authority to enter into an agreement with the holders of $41,963,000 of the consolidated mortgage bonds of the latter, maturing July 1, which were assumed by the Great Northern, for a ten-year extension of the maturity date.

Gulf, Mobile & Northern.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $542,694, compared with net deficit of $227,070 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	733.92	733.92	
Railway Operating Revenues	$3,151,652	$4,094,743	-$943,092
Maintenance of way	471,969	586,031	-114,062
Maintenance of equipment	666,426	737,922	-71,496
Transportat'n	1,168,948	1,508,149	-339,201
Total Operating Expenses	2,787,410	3,364,400	-576,991
Operating ratio	88.44	82.16	+6.28
Net Revenue from Operations	364,242	730,343	-366,101
Railway tax accruals	258,139	298,173	-40,034
Equipment rents—Net	62,015	94,840	+32,825
Joint facility rents—Net	176,000	170,678	-5,322
Net Railway Operating Income	132,335	166,003	-298,339
Non-operating income	123,810	128,311	-4,502
Gross Income	8,525	298,314	-302,840
Interest on funded debt	523,432	519,939	+3,493
Total Deductions from Gross Income	534,169	521,385	+12,784
Net Deficit	542,694	227,070	+315,624

Illinois Central.—*Bonds.*—The Interstate Commerce Commission has authorized this company to pledge $779,000 of its 4 per cent refunding mortgage bonds and $1,605,000 of 5 per cent improvement bonds, series Z, of the Yazoo & Mississippi Valley with the Railroad Credit Corporation as collateral security for loans. The Commission has authorized the Y. & M.V. to issue its series Z bonds to the Illinois Central in satisfactory of indebtedness.

International Railways of Central America.—*Annual Report.*—The 1932 annual report of this company shows net income, after interest and other charges, of $459,479, as compared with net income of $546,132 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Railway Operating Revenues	$4,403,366	$5,208,652	-$805,287
Maintenance of way	645,466	890,727	-245,261
Maintenance of equipment	624,692	792,468	-167,776
Transportation	931,454	1,256,657	-325,203
Total Operating Expenses	2,787,222	3,524,728	-737,507
Operating ratio	63.30	67.67	-4.37
Net Revenue from Operations	1,616,144	1,683,924	-67,780
Railway tax accruals	5,896	65,000	-59,104
Railway operating income	1,609,091	1,618,585	-9,494
Hire of freight cars—Cr.	1,633	2,331	-699
Non-operating income	208,625	230,289	-21,664
Gross Income	2,071,165	2,189,913	-118,748
Interest on funded debt	1,352,886	1,408,000	-55,114
Total Deductions from Gross Income	1,611,685	1,643,780	-32,095
Net Income	459,479	546,132	-86,653

Missouri Pacific.—*R.F.C. Asks Investigation.*—The Reconstruction Finance Corporation has filed a petition in the United States district court at St. Louis asking for the appointment of a trustee or trustees under the provisions of the recent amendment to the federal bankruptcy laws and for an investigation of transactions by which certain properties at Kansas City and St. Joseph, Mo., were ac-

Continued on next left-hand page

A Steam Leak of 15 Per Cent...

is happening every day on many steam locomotives — and it is needless.

Steam locomotives sending all of the exhaust steam out of the stack are losing 15 per cent of the fuel they burn that can be saved. An *Elesco feed water heater* will stop this steam leak . . . . by the heat in a portion of the exhaust steam being absorbed in the boiler feed water.

Stop this steam leak on your locomotives with Elesco feed water heaters . . . . saving fuel and water . . . . and, when you need it, increasing the sustained boiler capacity. Write for details — no obligation.

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, Inc.

60 East 42nd Street
NEW YORK

ELESCO

A-783

Peoples Gas Building
CHICAGO

Canada: The Superheater Company, Limited, Montreal

Superheaters . Feed Water Heaters . Exhaust Steam Injectors . Superheated Steam Pyrometers . American Throttles

quired by the Alleghany Corporation, through subsidiaries, and later transferred to the Missouri Pacific, in which the Alleghany Corporation has a large stock interest, at prices which the R.F.C. alleges were "in excess of the actual consideration and greatly in excess of the reasonable market value of said properties at that time." The petition also sets forth the amount of the loans made by the R.F.C. to the Missouri Pacific, amounting to $23,134,800. A motion has also been filed in the Supreme Court of the United States by Edwin M. Treusch representing various security holders asking permission to file a petition for a writ of mandamus compelling the court at St. Louis to appoint trustees for the Missouri Pacific. The court had appointed President L. W. Baldwin to continue to manage the property as agent of the court instead of appointing trustees from a panel selected by the Interstate Commerce Commission.

MOBILE & OHIO.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $2,237,427, as compared with net deficit of $2,002,504 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
RAILWAY OPERATING REVENUES	$7,851,329	$10,044,745	−$2,193,416
Maintenance of way	1,184,233	1,506,947	−322,714
Maintenance of equipment	1,511,893	2,004,972	−493,079
Transportation	3,354,230	4,339,772	−985,542
TOTAL OPERATING EXPENSES	7,056,191	9,004,218	−1,948,027
Operating ratio	89.87	89.64	+0.23
NET REVENUE FROM OPERATIONS	795,139	1,040,527	−245,388
Railway tax accruals	579,217	666,203	−86,986
Hire of equipment	352,283	401,087	−48,804
Joint facility rents	353,599	289,574	+64,025
OPERATING DEFICIT	509,802	318,555	+191,247
Non-operating income	106,826	110,943	−4,117
NET DEFICIT	402,976	207,612	+195,364
Interest on funded debt	1,463,441	1,448,175	+15,266
TOTAL DEDUCTIONS FROM GROSS INCOME	1,834,451	1,794,892	+39,559
DEFICIT AFTER CHARGES	2,237,427	2,002,504	+234,923

NEW ORLEANS GREAT NORTHERN.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $373,154, as compared with net deficit of $22,564 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	264.20	264.67	−.47
RAILWAY OPERATING REVENUES	$1,653,205	$2,317,485	−$664,280
Maintenance of way	162,104	204,911	−42,807
Maintenance of equipment	221,649	306,222	−84,573
Transportation	538,735	709,532	−170,797
TOTAL OPERATING EXPENSES	1,159,932	1,512,331	−352,399
Operating ratio	70.16	65.26	+4.90
NET REVENUE FROM OPERATIONS	493,273	805,154	−311,881
Railway tax accruals	110,471	98,820	+11,651
Equipment rents—Net	142,854	190,437	+47,583
Joint facility rents—Net	128,486	94,237	−34,249
NET RAILWAY OPERATING INCOME	110,839	421,029	−310,190
Non-operating income	6,667	4,673	+1,994
GROSS INCOME	117,506	425,701	−308,195
Rent for leased roads	39,297	.....	+39,297
Interest on funded debt	436,400	439,400	−3,000
TOTAL DEDUCTIONS FROM GROSS INCOME	490,660	448,266	+42,395
NET DEFICIT	373,154	22,564	+350,589

NEW ORLEANS & NORTHWESTERN.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $758,239, as compared with net deficit of $656,619 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	204.05	204.05	
RAILWAY OPERATING REVENUES	$1,960,873	$3,049,995	−$1,089,122
Maintenance of way	336,291	548,929	−212,638
Maintenance of equipment	542,016	738,038	−196,022
Transportation	788,157	1,139,495	−351,338
TOTAL OPERATING EXPENSES	1,887,607	2,724,991	−837,284
Operating ratio	96.26	89.34	+6.92
NET REVENUE FROM OPERATIONS	73,266	325,004	−251,738
Railway tax accruals	366,000	447,907	−81,907
Hire of equipment	219,285	280,881	−61,596
Joint facility rents	96,595	54,793	+41,802
OPERATING DEFICIT	415,740	349,157	+66,583
Non-operating income	63,296	88,229	−24,933
NET DEFICIT	352,445	260,928	+91,517
Interest on funded debt	392,325	392,325	
TOTAL DEDUCTIONS	405,794	395,691	+10,103
DEFICIT AFTER CHARGES	758,239	656,619	+101,620

NORTHERN PACIFIC.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $1,991,406, as compared with net income of $8,902,336 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	6,735.58	6,780.70	−45.12
RAILWAY OPERATING REVENUES	$47,084,176	$62,312,087	−$15,227,910
TOTAL OPERATING EXPENSES	41,433,180	52,082,847	−10,649,668
NET REVENUE FROM OPERATIONS	5,650,997	10,229,240	−4,578,243
Railway tax accruals	6,677,355	6,816,387	−139,033
Railway operating income	*1,049,567	3,402,780	−4,452,347
Equipment rents—Net	573,561	922,217	−348,655
Joint facility rents—Net	2,466,395	2,476,423	−10,028
NET RAILWAY OPERATING INCOME	1,990,389	6,801,420	−4,811,031
Non-operating income	10,603,628	16,852,586	−6,248,959
GROSS INCOME	12,594,017	23,654,006	−11,059,989
Rent for leased roads	51,419	51,419	.....
Interest on funded debt	14,264,259	14,391,742	−127,482
NET INCOME	*1,991,406	8,902,336	−10,893,742

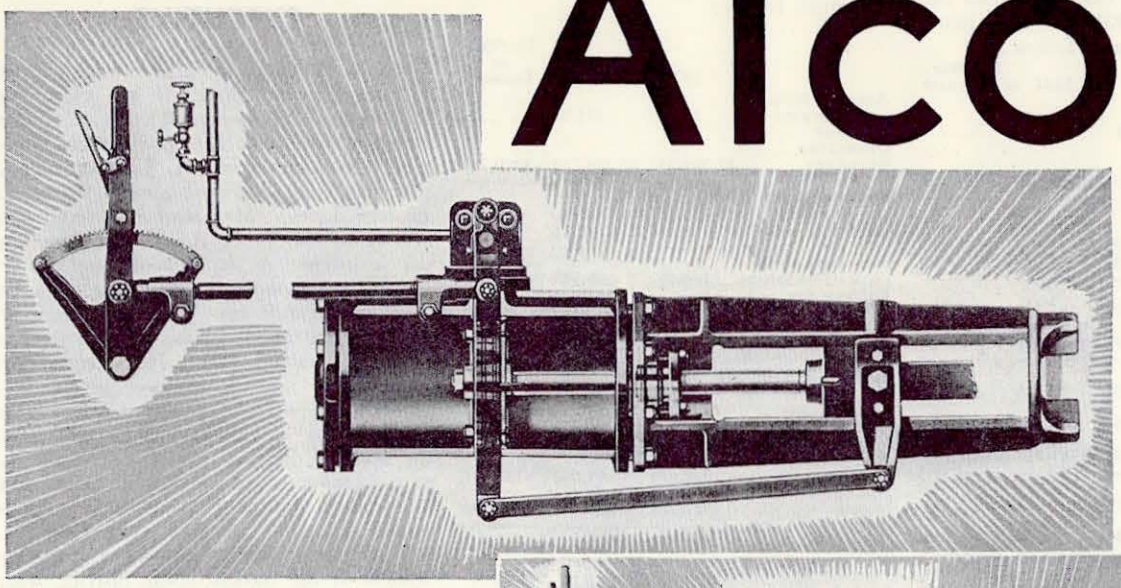
* Deficit.

NORTHWESTERN PACIFIC.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that portion of its Point Reyes branch extending from Manor, Cal., to Point Reyes, 17.6 miles, and that portion of its Guerneville branch extending from Duncan Mills to Cazadero, 7.2 miles. The abandonment is ascribed to the depletion of forest products and highway competition. The Pacific Motor Transport Company has established bus services between Point Reyes and Manor and will also establish freight services on the highway. The abandonment was protested by representatives of boy scouts who stated that from 400 to 700 boys depended upon one of the lines as a means of transportation to a summer camp which, however, is reached by paved highway. Another protestant was a large land owner engaged in the raising of vegetables. He, however, shipped his entire tonnage last year by truck.

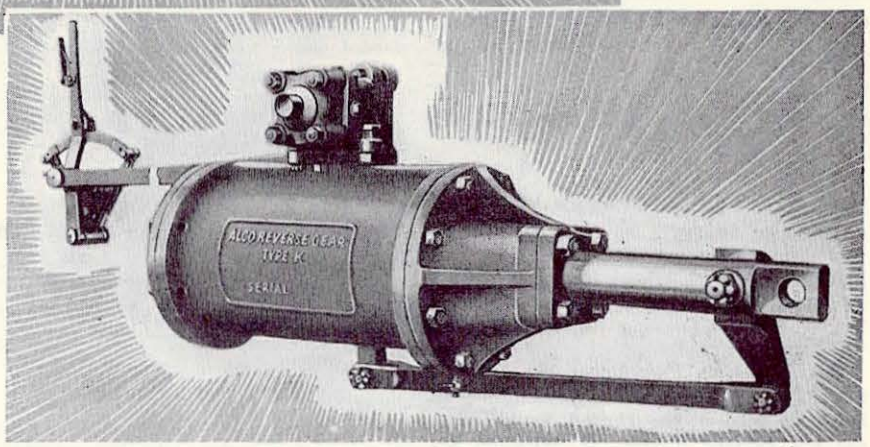
OKOLONA, HOUSTON & CALHOUN CITY.—*Operation.*—The Interstate Commerce Commission has authorized this company to operate a railroad extending from a connection with the Mobile & Ohio at Okolona, Miss., to Calhoun City, 37.3 miles. The railroad is owned by the Southern and is operated by the receiver of the Mobile & Ohio, and its abandonment has been authorized, subject to the condition that it be sold to any persons offering to purchase it at not less than its net salvage value. The Okolona company was organized with this purpose in view. The Southern has agreed to convey the lands of the new company "for $1 and other valuable consideration" and to lease the tracks at an annual rental of $3,000, plus taxes, for a period of ten years at the end of which time (if such payments are made in full) it agrees to convey absolute title to the property to the new company. The receiver of the M. & O. has tentatively agreed to sell to the Okolona a small locomotive for $3,000 and five or six freight cars and a passenger coach for local use on the line at their depreciated value. The communities along the line are said to "have a vivid realization" of the necessity of patronizing the line if its operation is to be continued and to "have agreed to support the applicant's operation by shipping over the line a great part of

Continued on next left-hand page

Alco



Type "G" Gear with crosshead and guides.



Type "K" Gear with trunk-piston rod.

REVERSE GEAR FACTS

Both gears are designed for air and steam operation.

A separate check valve for the air and steam connections is built in the body of the control valve.

The type "K" gear is approximately 10″ shorter than the type "G" gear, permitting application where a gear with guides can not be used.

The valve, reverse lever, and as many parts as possible of the type "G" gear are incorporated in the type "K" gear. And in both gears, all repair parts interchange with corresponding parts furnished with original gears.

All Alco Gears are simple, accurate, easily maintained, and reasonably priced.

American Locomotive Company

30 Church Street New York N.Y.

the freight that has been diverted to trucks running over the highways."

PEORIA & EASTERN.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $43,389, as compared with net income of $23,242 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	211.44	211.44	
RAILWAY OPERATING REVENUES	$2,090,585	$2,702,787	-$612,203
TOTAL OPERATING EXPENSES	1,804,897	2,317,032	-512,135
Operating ratio	86.33	85.73	+.60
NET REVENUE FROM OPERATIONS	285,687	385,755	-100,067
Railway tax accruals	166,499	208,673	-42,173
Railway operating income	118,750	176,115	-57,365
Equipment rents—Net Dr.	107,546	114,970	-7,424
Joint facility rents—Net Dr.	85,105	61,757	+23,348
NET RAILWAY OPERATING DEFICIT	73,901	611	+73,289
Non-operating income	45,615	42,089	+3,526
GROSS INCOME	*28,286	41,477	-69,763
TOTAL DEDUCTIONS FROM GROSS INCOME	15,103	18,235	-3,132
NET INCOME	*43,389	23,242	-66,631

*Deficit

ST. LOUIS-SAN FRANCISCO.—*Abandonment.*—The receivers have applied to the Interstate Commerce Commission for authority to abandon branch lines from Wardell, Mo., to Fraily, 4.5 miles, and from Yukon, Mo., to Deering Junction, 4 miles.

ST. LOUIS-SAN FRANCISCO.—*Reorganization Plan.*—A modified reorganization plan has been filed in the United States court for the eastern district of Missouri accompanied by a petition under the terms of the new railroad bankruptcy law, copies of which have also been filed with the Interstate Commerce Commission. A plan of reorganization had been prepared as of July 6, 1932, but some changes were made necessary by the passage of the new law and the modified plan makes provision for unsecured claims against the company estimated at $1,000,000, for the obligations of the receivers, for additional loans from the Reconstruction Finance Corporation to be secured by bonds issued under a new prior mortgage to such extent as necessary to enable the plan to be carried out, and for necessary working capital. It was stated that holders of 70 per cent of the bonds have assented to the modified plan and that deposits are still being received.

STANLEY, MERRILL & PHILLIPS.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Polley, Wis., to Walrath, 22 miles.

TONOPAH & TIDEWATER.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority for the abandonment of its line from Ludlow, Calif., to Crucero, 25.68 miles.

TORONTO, HAMILTON & BUFFALO.—*Annual Report.*—The 1932 annual report of this company shows net deficit, after interest and other charges, of $40,616, as compared with net income of $604,004 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average Mileage Operated	111.03	111.03	.....
RAILWAY OPERATING REVENUES	$1,394,043	$2,294,759	-$900,717
TOTAL OPERATING EXPENSES	1,202,351	1,784,810	-582,459
Operating ratio	86.25	77.78	+8.47
NET REVENUE FROM OPERATIONS	191,692	509,950	-318,258
Railway tax accruals	39,014	112,629	-73,615
Railway operating income	152,434	397,050	-244,616
Equipment rents—Net Dr.	4,943	16,956	-12,013
Joint facility rents—Net Cr.	72,573	20,985	+51,588
NET RAILWAY OPERATING INCOME	220,064	401,080	-181,016
Non-operating income	72,789	427,168	-354,380
GROSS INCOME	292,852	828,248	-535,396
Interest on funded debt	221,200	221,200	.....
TOTAL DEDUCTIONS FROM GROSS INCOME	333,468	224,244	+109,225
NET INCOME	*40,616	604,004	-644,620

* Deficit.

Average Prices of Stocks and of Bonds

	May 23	Last week	Last year
Average price of 20 representative railway stocks..	36.60	34.96	13.95
Average price of 20 representative railway bonds..	64.23	62.72	50.84

Tentative Valuations

The Interstate Commerce Commission has issued tentative valuation reports, by Division 1, finding the final value for rate-making purposes of the property owned and used for common-carrier purposes as follows:

Lowell & Southern.....	$93,000	1927
Terminal Railway, Alabama State Docks	2,025,000	1928
Indianapolis Union	11,800,000	1927
Tidewater Southern	1,425,000	1927
New York Dock.....	600,000	1927
Oregon, California & Eastern	1,500,000	1928
Michigan Ry. & Nav. Co.....	295,000	1927
Sacramento Northern	9,600,000	1928
United Railways (Oregon)....	4,250,000	1927
Fonda, Johnstown & Gloversville	4,225,000	1927

Dividends Declared

Albany & Susquehanna.—$4.50, semi-annually, payable July 1 to holders of record June 15.

Atlanta, Birmingham & Coast.—Preferred, $2.50, semi-annually, payable July 1 to holders of record June 12.

Bangor & Aroostook.—Common, 50c, quarterly; preferred, $1.75, quarterly, both payable July 1 to holders of record May 31.

Delaware & Bound Brook.—$2.00, payable May 20 to holders of record May 16.

Kansas, Oklahoma & Gulf.—Series A, 6 per cent cumulative preferred, 3 per cent, semi-annually; Series B, 6 per cent non-cumulative preferred, 3 per cent, semi-annually; Series C, 6 per cent non-cumulative preferred, 1 per cent, semi-annually, all payable June 1 to holders of record May 20.

Mobile & Birmingham.—Preferred, $2.00, semi-annually, payable July 1 to holders of record June 1.

West Jersey & Seashore.—6 per cent special guaranteed, 1½ per cent, semi-annually, payable June 1 to holders of record May 15.

Railway Officers

EXECUTIVE

W. A. Mather, general superintendent of the Alberta district of the Canadian Pacific, has been appointed assistant to the vice-president with headquarters at Montreal, Que., succeeding **H. J. Humphrey,** who has been appointed general manager, Eastern Lines. Mr. Mather entered the service of the C. P. R. as an axeman in the construction department, and after serving as tapeman, rodman, instrument man, and transit man, became a resident engineer on construction with headquarters at Winnipeg, Man. He subsequently served as a resident engineer in the engineering department in the west, and on January 1, 1913, became superintendent of the Kenora division. He later served as superintendent at Medicine Hat, Alta., and as assistant general superintendent at Vancouver, B. C. In October, 1918, Mr. Mather was appointed general superintendent of the Saskatchewan district, with headquarters at Moose Jaw. On December 1, 1932, he was transferred to the Alberta district, as general superintendent, with headquarters at Calgary.

FINANCIAL, LEGAL AND ACCOUNTING

J. O. Talbott has been appointed treasurer and general manager of the Bellefonte Central, succeeding **O. H. Baird.**

F. O. Linstead, assistant local treasurer of the Chicago & North Western, has been promoted to local treasurer, with headquarters as before at Chicago, to succeed **Arthur B. Jones,** deceased.

Alfred E. Patten, tax agent of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been appointed also real estate agent to take over the duties of **O. F. Scudder,** real estate agent, deceased.

TRAFFIC

A. W. Whiskin has been appointed general agent of the St. Louis Southwestern, with headquarters at Toronto, Ont.

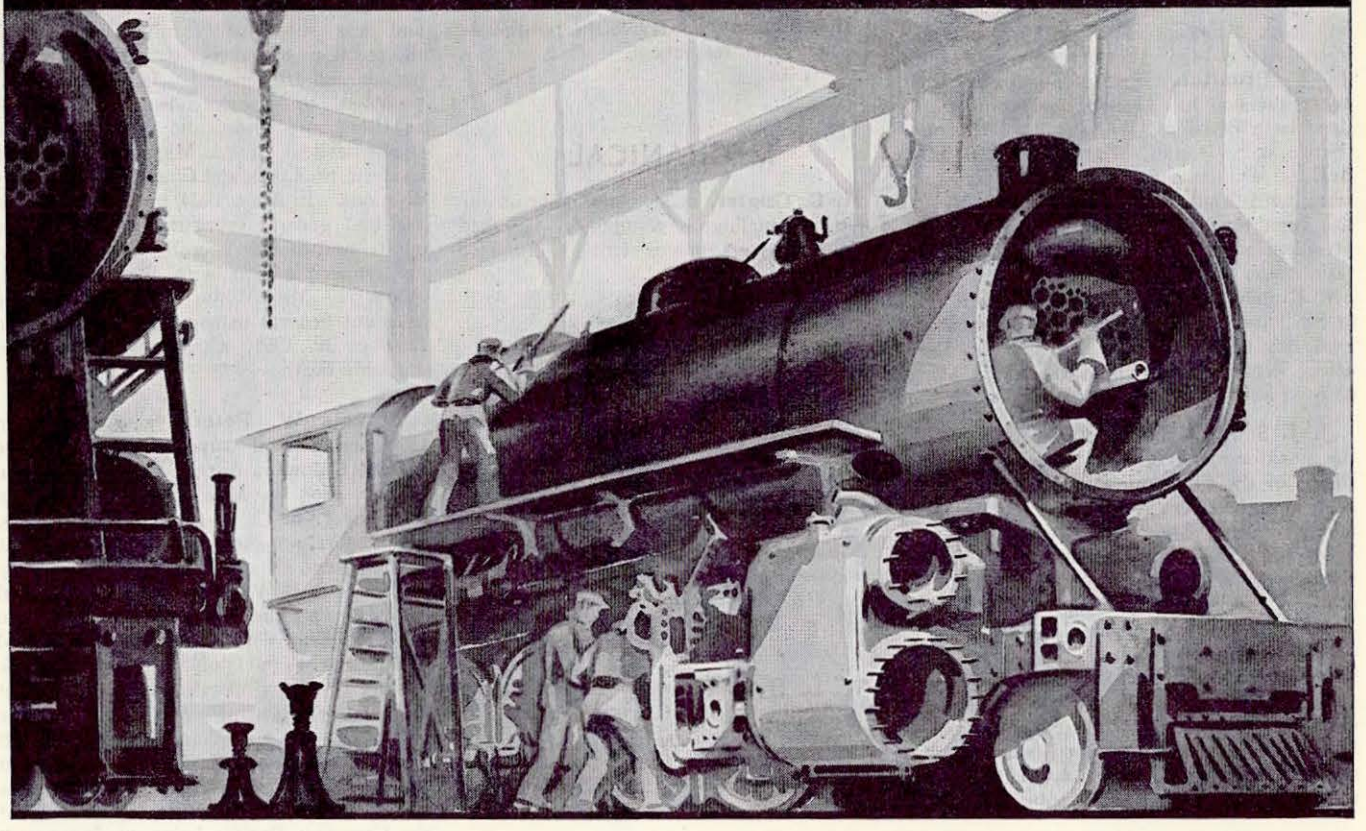
OPERATING

The jurisdiction of **W. A. Hamler,** superintendent of the St. Lawrence division of the New York Central, with headquarters at Watertown, N. Y., will, effective June 1, be extended to include the Adirondack division.

R. A. Sewell, superintendent of the Farnham division of the Canadian Pacific, has been appointed superintendent of the Laurentian division succeeding **O. M. Lavoie,** deceased. Mr. Sewell will have headquarters at Montreal, Que. **C. O.**

Continued on next left-hand page

USE MODERN MATERIALS FOR ALL REPLACEMENTS



Most locomotives now in service lacked the benefit of modern materials when they were built 20 years or more ago. « But they, too, can have the longer wear and lower maintenance that come from modern materials. « When boiler tubes need replacement use tubes of Toncan Iron to obtain greater resistance to corrosion. « When staybolts are cut out replace them with Agathon alloy bolts. Alloy materials have higher strength, better shock resistance and greater resistance to corrosion. « So, too, with engine bolts, axles, pins and all wearing parts. Republic metallurgists have developed special railroad alloy steels and irons for specific purposes that will lower future maintenance costs. « Consult Republic on your materials problems.

Toncan Iron Boiler Tubes, Pipe, Plates, Culverts, Rivets, Staybolts, Tender Plates and Firebox Sheets • Sheets and Strip for special railroad purposes • Agathon Alloy Steels for Locomotive Parts • Agathon Engine Bolt Steel • Agathon Iron for pins and bushings • Agathon Staybolt Iron • Climax Steel Staybolts • Upson Bolts and Nuts • Track Material, Maney Guard Rail Assemblies • Enduro Stainless Steel for dining car equipment, for refrigeration cars and for firebox sheets • Agathon Nickel Forging Steel.

The Birdsboro Steel Foundry & Machine Company of Birdsboro, Penna. has manufactured and is prepared to supply, under license, Toncan Copper Molybdenum Iron castings for locomotives.

CENTRAL ALLOY DIVISION, MASSILLON, OHIO

AGATHON STEELS

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO

REPUBLIC TONCAN COPPER MOLYBDENUM IRON

McHugh, transportation assistant to the general superintendent has been appointed superintendent of the Farnham division with headquarters at Farnham, Que., and **C. G. Nuttall** chief traffic supervisor at the Montreal terminals has been appointed to succeed Mr. McHugh as transportation assistant to the general superintendent.

The Nebraska division of the Chicago, St. Paul, Minneapolis & Omaha, has been absorbed by the Western division and **J. J. Prentice,** superintendent of the latter division has been given jurisdiction over both divisions, with headquarters as before at St. James, Minn. **E. C. Blundell,** superintendent of the Nebraska division, with headquarters at Omaha, Neb., has been appointed assistant to the vice-president and general manager, with supervision over all track maintenance matters. Mr. Blundell, whose headquarters will be at St. Paul, Minn., succeeds **J. C. Yocum,** who has been appointed manager of the safety department, with headquarters also at St. Paul.

J. J. Scully, who recently relinquished the position of general manager, Eastern Lines, of the Canadian Pacific, because of ill health, had served in that capacity for eleven years. Mr. Scully was born at Montreal, Que., and commenced his railroad career as clerk in the car accountant's office of the C. P. R. on January 14, 1886. Subsequently he served as clerk and chief clerk in superintendent's office at Farnham, Que.; chief clerk to superintendent successively at Montreal and Farnham; chief clerk, mechanical department, Farnham and Toronto; assistant master mechanic Ontario and Quebec division; assistant master mechanic, Winnipeg, Man.,

J. J. Scully

chief clerk to general superintendent; chief clerk to assistant general manager at Winnipeg, and from June to August, 1903, acting superintendent at Regina, Sask. In August, 1903, he was appointed chief clerk to assistant general manager, and from January to April, 1904, he was chief clerk to second vice-president. From April to August, 1904, Mr. Scully served as assistant superintendent at Brandon, Man., and on the latter date he was appointed superintendent. In October, 1906, he was appointed superintendent at Kenora, Ont., in charge of double track construction, and from May to July, 1910, he was superintendent at Moose Jaw, Sask. In July, 1910, Mr. Scully was appointed general superintendent of the Saskatchewan division at Moose Jaw, and in April, 1912, he was transferred, in the same capacity, to the Lake Superior division, now the Algoma district at North Bay, Ont. He was appointed general manager, Eastern Lines, at Montreal, in July, 1922, the position he held until his retirement.

MECHANICAL

H. C. Gugler, master mechanic on the Chicago, Burlington & Quincy, has had his headquarters moved from Chicago to Clyde, Ill.

OBITUARY

R. W. Taylor, assistant signal engineer of the Baltimore & Ohio, with headquarters at Baltimore, Md., died at his home in that city on May 7.

Albert Nordberg, master mechanic of the Pittsburgh & Susquehanna at Philipsburg, Pa., died at his home in Philipsburg, on May 2, following a prolonged illness.

W. L. Hunker, district storekeeper on the Chicago, Rock Island & Pacific, with headquarters at Silvis, Ill., died on May 10, in St. Anthony's hospital at Rock Island, Ill., following an appendicitis operation.

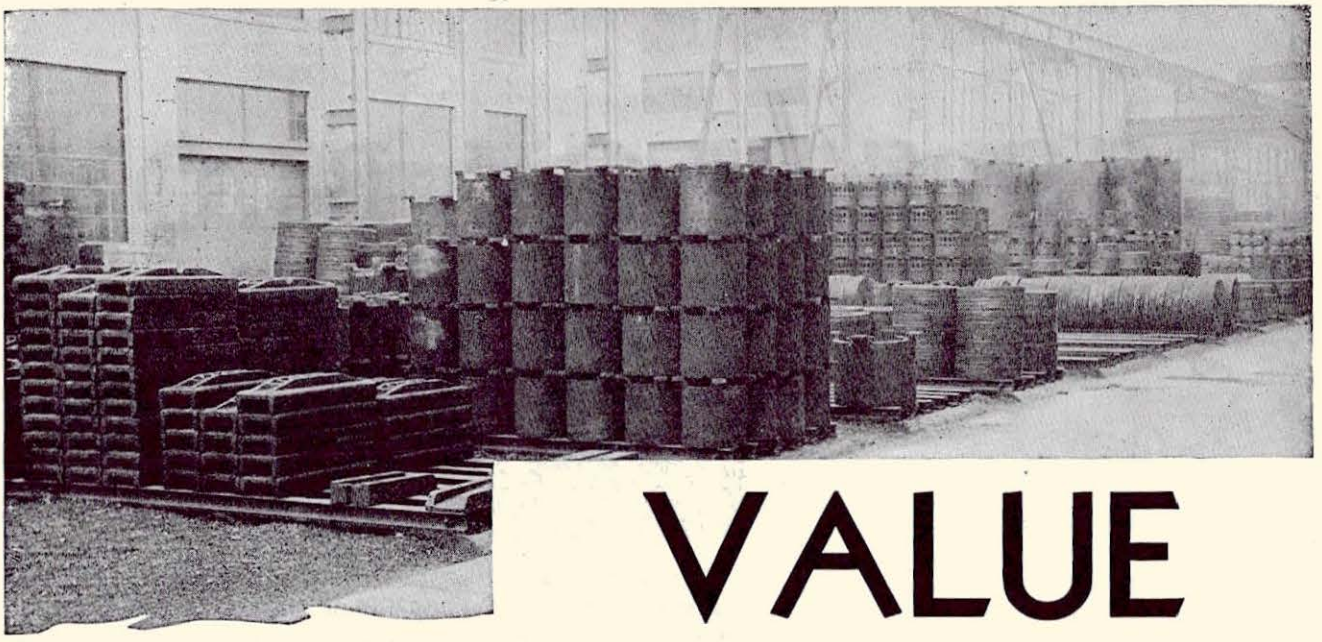
Arthur B. Jones, local treasurer of the Chicago & North Western, with headquarters at Chicago, died on May 16 at La Jolla, Cal., following a heart attack. Mr. Jones was born on June 12, 1868, at Tillsonburg, Ont., and entered railway service in 1884 as an office boy on the North Western. Subsequently he was promoted successively through the positions of clerk, cashier, paymaster and general cashier. In 1910 he was advanced to local treasurer at Chicago, which position he held continuously until his death.

Arthur Trevvett, secretary and treasurer of the Chesapeake & Ohio and the Pere Marquette, with headquarters at Cleveland, Ohio, died on May 17, at Richmond, Va. Mr. Trevvett was born on June 13, 1863, at Leicaster, England, and entered railway service in 1880 as a clerk in the accounting department of the Midland (now the London, Midland & Scottish). Four years later he entered the service of the C. & O. as a clerk in the general manager's office, at Richmond, where he was later appointed chief disbursement clerk in the accounting department. In 1892 Mr. Trevvett was made chief clerk to the vice-president and was later advanced through the positions of assistant secretary and secretary and treasurer, being appointed to the latter position in 1919. Ten years later he was appointed also to the same position on the Pere Marquette and remained in this capacity on both roads until his death.

Philip T. White, assistant general manager of the Cleveland, Cincinnati, Chicago & St. Louis, at Cincinnati, Ohio, who died on May 14, as noted in the *Railway Age* of May 20, was born on June 18, 1884, at Bridgeport, Conn., and received his higher education at Yale University. Mr. White entered the service of the Big Four in 1907 as a yard clerk at Indianapolis, Ind., and was subsequently advanced through the positions of yardmaster, assistant trainmaster and trainmaster. In 1913, he was promoted to superintendent of terminals at Cleveland, Ohio, and later served as superintendent of the Michigan, Peoria & Eastern, St. Louis and Cincinnati-Sandusky divisions. In May, 1924, he was appointed assistant general superintendent at Indianapolis, and a year later he was made general superintendent with the same headquarters. Mr. White was promoted to assistant general manager at Cincinnati on October 10, 1931, which position he held until his death.

Francis W. Peters, who retired in 1926 as general superintendent of the British Columbia district of the Canadian Pacific, died on May 13 at his home in Vancouver, B. C., at the age of 73 years. Mr. Peters was born on March 25, 1860, at St. John, N. B., and entered railway service in 1874 with the Intercolonial (now part of the Canadian National). In 1880 he went with the Chicago & Grand Trunk (now part of the Grand Trunk Western) as an operator and relief agent and in the following year, he entered the service of the Canadian Pacific as a bill clerk at Winnipeg, Man. During the next 20 years Mr. Peters held various positions in the operating and traffic departments of the Canadian Pacific, being on January 1, 1902, promoted to assistant freight traffic manager of the Western Lines at Winnipeg. Six years later he was made assistant to the vice-president and in 1912 he was appointed general superintendent of the British Columbia district, with headquarters at Vancouver, the position he was holding at the time of his retirement.

James M. Waldron, signal engineer of the Interborough Rapid Transit Company (New York City), died at his home in Englewood, N. J., on May 24, at the age of 67. Mr. Waldron was born at Milton, Pa., and was graduated from Pennsylvania State College with the degree of civil engineer. His early work in the signaling field was on the New York Central, and with the Union Switch & Signal Company. He took part in the installation of the signals on the Boston elevated (before the Interborough lines were built) and also those of the Reading terminals at Philadelphia. He was appointed signal engineer of the Interborough in 1902, two years before the completion of its first line, and he had supervised the whole of the vast system of the Interborough including automatic block signals, innumerable interlockings both mechanical and electropneumatic, and an elaborate equipment of train stops. He was a pioneer in the development of the latter, the Interborough lines having for years had the most extensive and complete system of automatic train control in the world.



VALUE

SERVICE between replacements is the only true measure of values — the material which lasts longer is always the least expensive.

The very fact that the majority of American railroads use HUNT-SPILLER *Air Furnace* GUN IRON castings for the vital parts on their locomotives is convincing evidence of the quality of this wear resistant material.

Savings actually start before application— The uniformity of H S G I reduces machining costs and its wear resisting qualities insure maximum mileage between renewals and minimum fuel consumption per ton mile.

HUNT-SPILLER MFG. CORPORATION
J. G. Platt, Pres. & Gen. Mgr. V. W. Ellet, Vice-President

Office & Works
383 Dorchester Ave. South Boston, 27, Mass.
Canadian Representative: Joseph Robb & Co., Ltd., 997 Aqueduct St., Montreal, P. Q.
Export Agent for Latin America:
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

H S G I
Reg. U. S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings

Parts Finished For Application

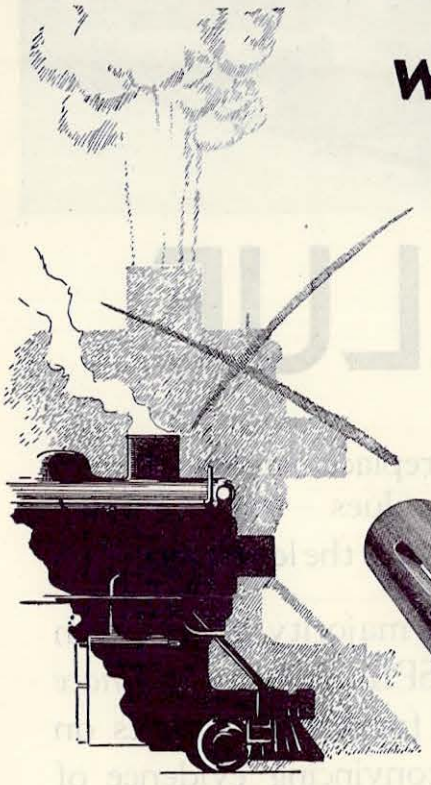
Dunbar Sectional Type Packing
Duplex Sectional Type Packing for Cylinders and Valves
(Duplex Springs for Above Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes

HUNT-SPILLER GUN IRON

Air Furnace

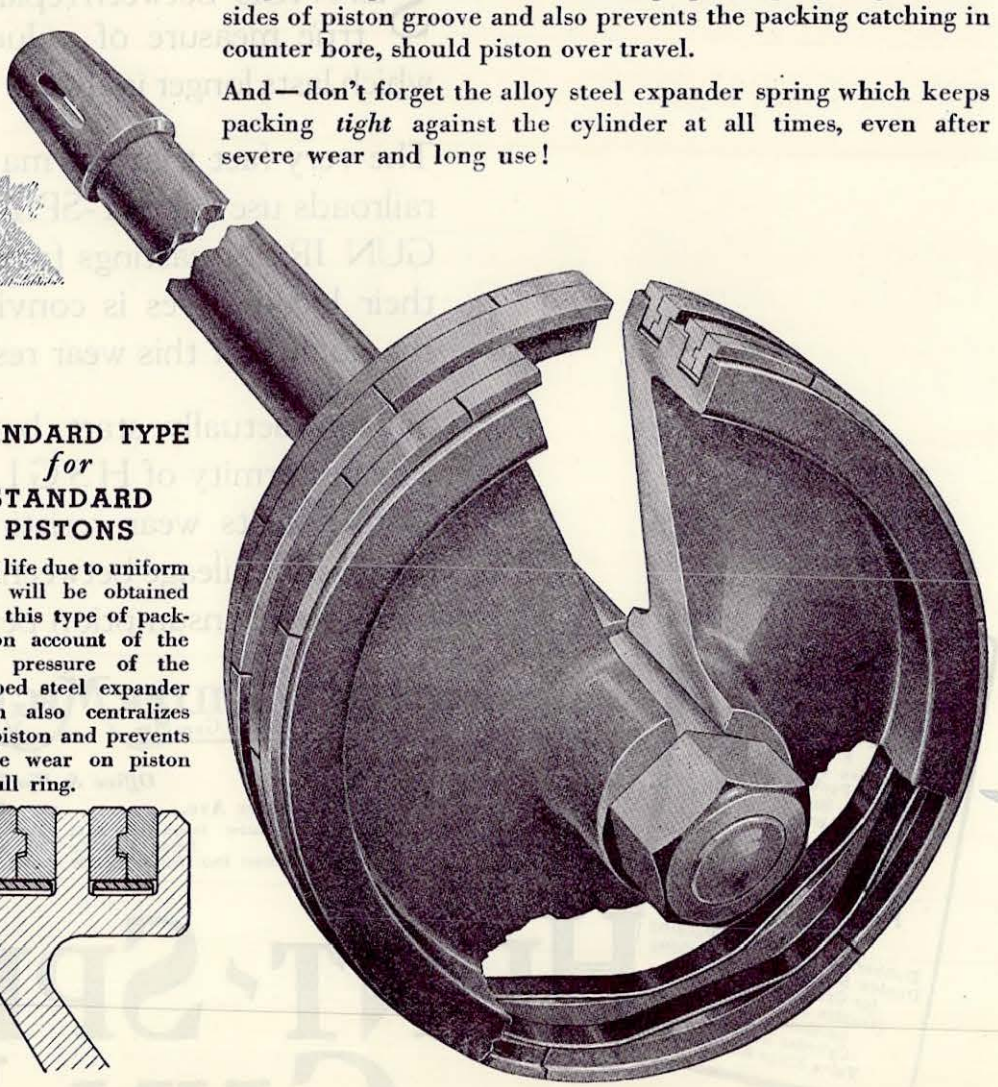
LESS STACK BLOW

with American Sectional Piston Packing



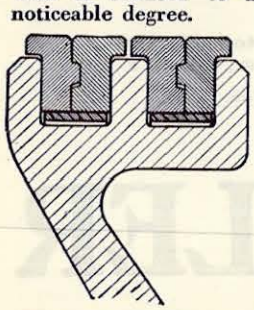
Properly packed pistons *lower fuel consumption*—improperly packed pistons *raise it!* American Sectional Piston Packings meet every requirement—of economical maintenance, efficient operation and easy installation—with a new degree of satisfaction. Flexibility means conformance to badly worn, oversize and out-of-round cylinders. Tapered tongue and groove construction keeps packing tight against the sides of piston groove and also prevents the packing catching in counter bore, should piston over travel.

And—don't forget the alloy steel expander spring which keeps packing *tight* against the cylinder at all times, even after severe wear and long use!



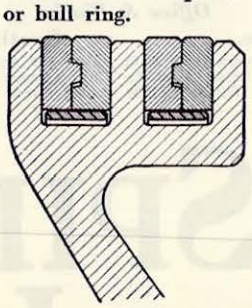
FLANGED TYPE *for* TURNED DOWN PISTONS

In oversize cylinders the same piston can be used and the flanges on the packing make greater to take up the wear. With the flanged type of piston packing greater cylinder contacting surface is obtained and wear is reduced to a noticeable degree.



STANDARD TYPE *for* STANDARD PISTONS

Long life due to uniform wear will be obtained from this type of packing on account of the even pressure of the crimped steel expander which also centralizes the piston and prevents undue wear on piston or bull ring.



THE AMERICAN HAMMERED PISTON RING COMPANY

Subsidiary of THE KOPPERS COMPANY

MAIN OFFICE AND FACTORY—BALTIMORE, MARYLAND

Railroad Sales Offices: 230 Park Ave., New York, N. Y. 310 Michigan Blvd., Chicago, Ill. Balto. Trust Bldg., Balto., Md. Mutual Bldg., Richmond, Va.

The NEW "AB" FREIGHT BRAKE

HAS MANY DISTINCTIVE EMERGENCY FEATURES

EMERGENCY applications can be obtained with this new brake *at any time*, irrespective of the existing state of brake application and release, but adequate protection against undesired emergency application is provided. . . The propagation rate of quick action is the fastest ever produced in any practical pneumatic equipment. . . The build up of brake cylinder pressure is controlled so that train slack is adjusted without damaging shocks, and the final brake force available for stopping the train is greater than with the present standard equipment. . . Following emergency operation, the release of every brake in the train is effected quickly and dependably. . . The safety advantages of these improvements will be clearly evident. . . . . .

This Advertisement is No. 4 of a Series

WESTINGHOUSE AIR BRAKE CO.

General Office and Works, Wilmerding, Penna.

(1238)

MAXIMUM TRACK SAFETY

WHEN TESTING RAILS IN TRACK
IS ASSURED ONLY BY THE USE OF

THE LATEST IMPROVED DETECTOR EQUIPMENT

AVAILABLE ***ONLY*** IN

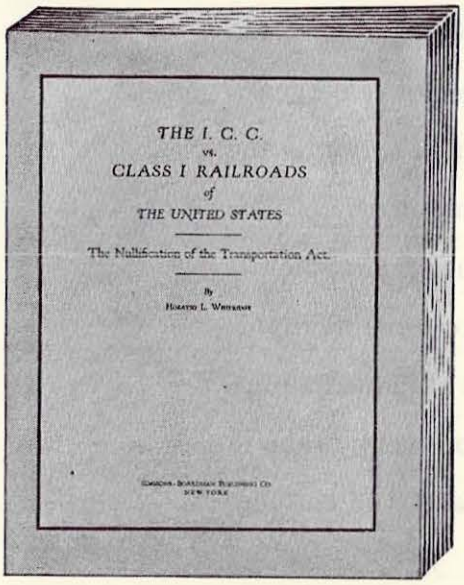
DETECTOR CARS OPERATED BY

SPERRY RAIL SERVICE

FIFTY-SEVEN RAILROADS HAVE USED
SPERRY RAIL SERVICE TO TEST MORE
THAN 115,000 MILES OF TRACK

SPERRY PRODUCTS, Inc.
Sperry Building . Brooklyn, N. Y.
Chicago Office: 80 East Jackson Blvd.

"SPERRY PORTABLE DETECTORS"
"SPERRY TRACK RECORDER CARS"
"SPERRY AUTOMATIC LOCOMOTIVE WASHERS"



The I. C. C. vs. Class I Railroads of the United States

***By* Horatio L. Whitridge**

Anyone concerned with the financial future of the railroads under private ownership and government control can obtain a balanced and well rounded view of the present situation by reading this short and penetrating analysis. The book contains a remedial program in the light of that of the Royal Commission on Transport for Great Britain. It also supports the findings of the U. S. Chamber of Commerce and most of the recommendations of the National Transportation Committee's report which will probably be the basis of remedial legislation by Congress.

174 pages, 9 x 12 inches, paper binding, $1.00

CONTENTS

Foreword—Transportation Chart—Petition for Rate Increase of 15%—Transportation Act of 1920—The Supreme Court and "Fair Value" and "Fair Return"—Interstate Commerce Commission Valuations—Honest, Efficient and Economical Management—Passenger Business—Less Than Current Interest on Investment—Opposition to Rate Increase—The Hoch-Smith Resolution—Wages of Railroad Labor—Railroad Rates—Inland Waterways—The Motor Truck—Coordination of Rail and Motor Transportation—Railroad Costs Under Private Ownership—Railroad Credit—Railroad Consolidation—Railroad Executives—The Cost of Government Ownership—Independent Office Appropriation Bill for 1932—How the Taxpayers' Money is Appropriated—The Interstate Commerce Commission Itself—The Taxpayer—The Shipper—Hearings in Connection with Ex Parte 103—The Commission's Decision in the 15% Case—Royal Commission on Transport—Conclusion.

SIMMONS-BOARDMAN
FREE EXAMINATION COUPON

Simmons-Boardman Publishing Company,
30 Church Street, New York, N. Y.

Send me a copy of THE I. C. C. vs. CLASS I RAILROADS OF THE UNITED STATES. Within 10 days I will either return it or remit the list price of $1.00.

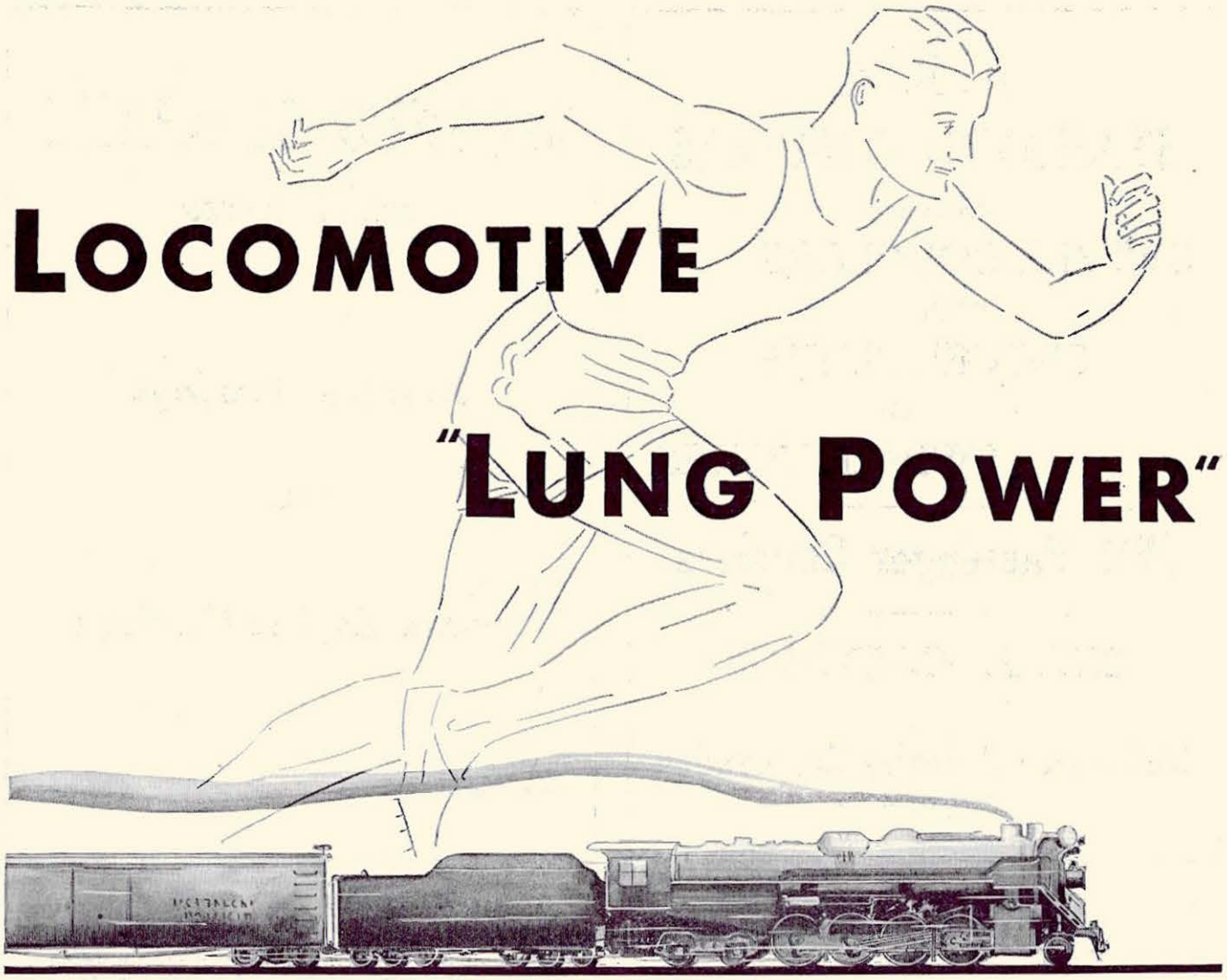
Signed .....

Address .....

City .....State.....

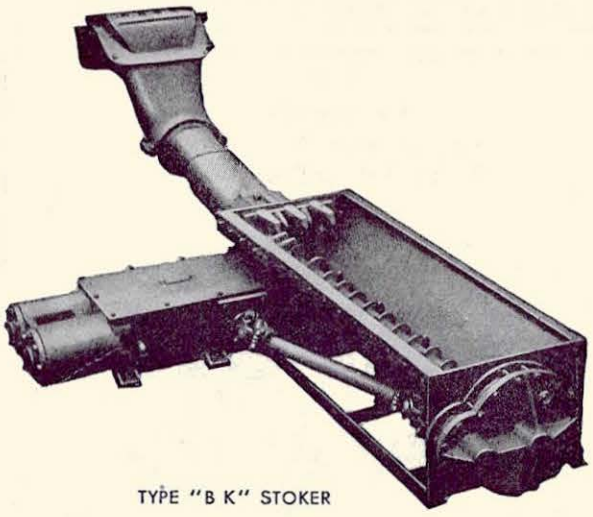
Company ....Position .....

(Books sent on approval to retail purchasers in the U. S. and Canada only.) R.A. 5-27-33



LOCOMOTIVE "LUNG POWER"

DEPENDABLE STOKERS



TYPE "B K" STOKER

IN a cross country run it's lung power that limits the runner's speed.

Likewise with the locomotive it's lung power — the ability of its boiler to make steam — that determines the speed it can move a given tonnage.

The Standard Stoker adds to the speed of tonnage movement by maintaining at all times the full potential steaming capacity of the boiler.

By maintaining a thin, even fire that is always instantly responsive to the demand for steam, dependable Stoker firing guarantees more trains on time and fewer detentions.

Investigate the performance of your stoker fired power. Then base future action on the results you find.

THE STANDARD STOKER COMPANY, INC.

NEW YORK CHICAGO ERIE

A. R. A.
STANDARD COUPLERS

Including

SWIVEL COUPLERS

With

SWIVEL BUTTS

Or

SWIVEL YOKES

Pitt Passenger Couplers

STEEL CASTINGS

McConway & Torley Corporation
Pittsburgh, Pa.

MAGNUS COMPANY

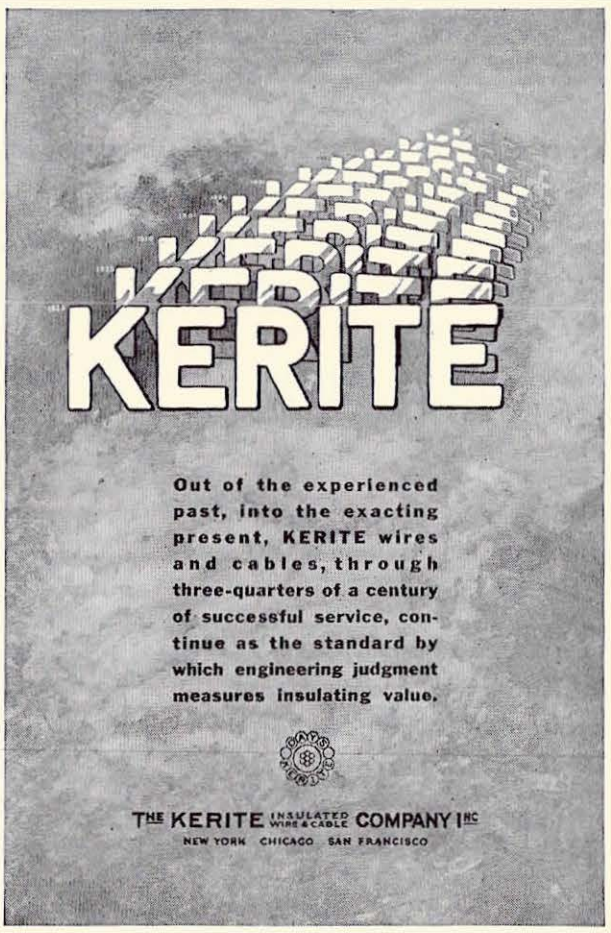
(INCORPORATED)

Journal Bearings

AND

Bronze Engine Castings

New York Chicago


KERITE
Out of the experienced past, into the exacting present, KERITE wires and cables, through three-quarters of a century of successful service, continue as the standard by which engineering judgment measures insulating value.
THE KERITE INSULATED WIRE & CABLE COMPANY INC
NEW YORK CHICAGO SAN FRANCISCO

EDGEWATER STEEL COMPANY
PITTSBURGH, PA.

Details of our products appeared in the following issues of Railway Age during 1931, 1932 & 1933:

1931—May 16—June 13—July 4—Aug. 1, 8, 15, 22, 29—Sept. 5, 12—Oct. 3—Dec. 5.
1932—Jan. 2—March 5—April 2—May 7—June 18, 25—Sept. 3.
1933—Feb'y 4, 25—March 4—April 1.

For
Complete
Alphabetical Index
to Advertisers
see
page 28

VAPOR Products

STEAM COUPLERS
ARA Standard

VAPOR SYSTEM
Thermostatic Control

VAPOR SYSTEM

FLEXIBLE CONDUITS
in place of Steam Hose

CONTROLS for Air
Conditioning

VAPOR CAR HEATING CO., Inc.
RAILWAY EXCHANGE, CHICAGO

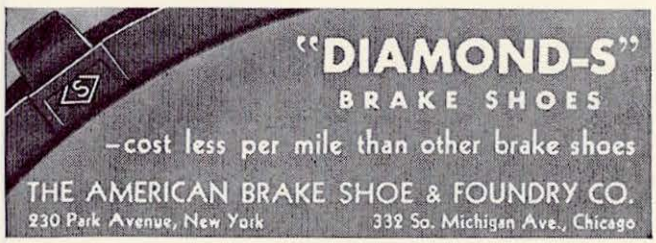
CAMEL
Freight Car Door Fixtures

YOUNGSTOWN
Corrugated Steel Freight Car Doors

CAMEL SALES COMPANY 332 South Michigan Avenue CHICAGO, ILLINOIS

BARBER LATERAL - MOTION DEVICE
1,300,000 cars equipped
ROLLER SIDE-BEARINGS
STANDARD CAR TRUCK CO.
McCORMICK BUILDING CHICAGO

WINE RAILWAY APPLIANCE CO.
TOLEDO, OHIO
Details of our products appear in following issues of Railway Age during 1932
January 16—March 19—May 21—August 13—September 17—November 19—or Railway Mechanical Engineer.


"DIAMOND-S"
BRAKE SHOES
—cost less per mile than other brake shoes
THE AMERICAN BRAKE SHOE & FOUNDRY CO.
230 Park Avenue, New York
332 So. Michigan Ave., Chicago

THE BUCKEYE STEEL CASTINGS CO.
COLUMBUS, OHIO
MANUFACTURER of Side Frames and Bolsters for 4-Wheel and 6-Wheel Freight Cars and Locomotive Tenders, A. R. A. Couplers, Yokes and Car Castings.

PROFESSIONAL DIRECTORY

Your name should appear before the readers of this publication.

Your professional card should appear in this section

Robert W. Hunt Company
ENGINEERS
Inspection—Tests—Consultation
All Railway Equipment, Structures and Materials
General Office:
175 W. Jackson Boulevard
CHICAGO
Offices in all principal cities

GET TOGETHER DEPARTMENT

Non-Display "Employment" Ads five cents a word. Count address in figuring cost. Box number requires ten words. All other classified Ads $4.00 an inch (1" x 1⅝") an insertion. Payable in advance. Railway Age, 30 Church St., New York, N. Y.

Your classified advertisement should appear in this section.

POSITION OPEN

IF YOU are open to overtures for new connection, and qualified for a salary between $2,500 and $25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standing and reputation, through which preliminaries are negotiated confidentially for positions of the calibre indicated. The procedure is individualized to each client's personal requirements; your identity covered and present position protected. Established twenty-three years. Send only name and address for details. R. W. Bixby, Inc., 102 Delward Building, Buffalo, New York.

EDUCATIONAL

THE Railway Educational Bureau, Omaha, Neb., offers a distinctive education service for Supervisors and other employes. Write for FREE Special Bulletin.

Index to Advertisers

May 27, 1933

A

American Arch Co., Inc. 17
American Brake Shoe & Foundry Co., The 27
American Hammered Piston Ring Co., The 22
American Locomotive Co. 19
American Steel Foundries 11
Armco Culvert Manufacturers Assn 9
Armco Railroad Sales Co., The 13

B

Baldwin Locomotive Works, The 8
Bethlehem Steel Co. 2
Bixby, Inc., R. W. 27
Buckeye Steel Castings Co., The 27
Burroughs Adding Machine Co. 4

C

Camel Sales Co. 27
Classified Advertisements 27

E

Edgewater Steel Co. 26

F

Franklin Railway Supply Co., Inc. 16

G

General Railway Signal Co. 3, 32
Get Together Department 27
Griffin Wheel Co. 14a

H

Harbison-Walker Refractories Co. 17
Hunt Company, Robert W. 27
Hunt-Spiller Manufacturing Corp. 21
Hutchins Car Roofing Co. 14b

I

Ingot Iron Railway Products Co. 9

K

Kerite Insulated Wire & Cable Co. 26

L

Lima Locomotive Works, Inc. 15

Mc

McConway & Torley Corp. 26

M

Magnus Company, Inc. 26

P

Professional Directory 27

R

Railway Educational Bureau, The 27
Railway Steel-Spring Co. 29
Reading Iron Co. 10
Republic Steel Corporation 20

S

Safety Car Heating & Lighting Co. 12
Simmons-Boardman Publishing Co. 14, 24
Sperry Products, Inc. 24
Standard Car Truck Co. 27
Standard Stoker Co., Inc., The 25
Superheater Co., The 18

U

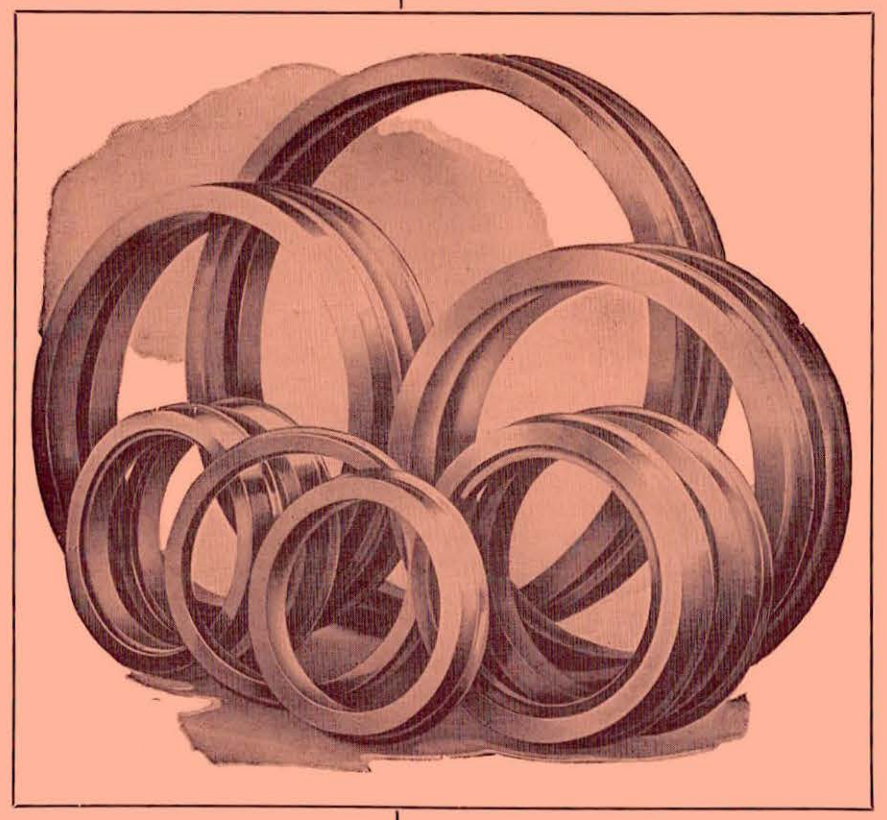
Union Switch & Signal Co. 6, 7, 32

V

Vapor Car Heating Co. 26

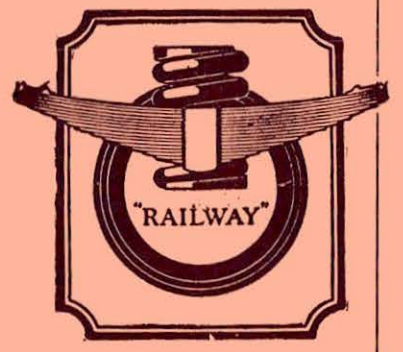
W

Westinghouse Air Brake Co. 23
Wine Railway Appliance Co. 27



Tires Wheels Springs

For Every Type of Rolling Stock In Every Class of Service



"RAILWAY" locomotive and car wheel tires are made to meet the particular requirement of service. It may be the long continued run of the passenger train or the many stops and starts of the switcher with its constant crowding through switches. For every type of use a tire must be employed that will give the maximum life if there is to be the greatest economy.

Only experience and laboratory research can provide that knowledge. You find it in all "Railway" products.

Railway Steel-Spring Company

30 CHURCH ST., NEW YORK

Branch Offices:

Chicago, Ill. Washington, D. C. Cleveland, Ohio Pittsburgh, Pa. Montreal, Que.
St. Paul, Minn. St. Louis, Mo. Denver, Colo. San Francisco, Cal.

ECONOMICS OF RAILWAY SIGNALING*

A report on the economics of railway signaling, presented at the annual meeting of the American Railway Association Signal Section, May 9 and 10, included in summary form:

> "data showing the economic results actually accomplished by modern signal systems to suggest methods for determining the probable economic benefits to be derived from proposed installations."

The following is quoted from the report:

> "A modern signal system will frequently provide the additional capacity needed to handle a seasonal peak traffic of relatively short duration in the most economical manner because the capacity required is furnished at the lowest possible capital investment.
>
> "Such a system will not only reduce the investment required to handle this traffic expeditiously, but will also bring about sufficiently improved operation during the periods of normal traffic throughout the balance of the year to make an attractive operating saving even at the periods of minimum traffic density.
>
> "Modern signal systems do not require traffic at or near peak densities in order to justify the expenditure, although the rates of saving increase rapidly with increased traffic. . . . .
>
> "On the following pages will be found the various applications of signaling in the field of railway transportation and the economic and other advantages actually accomplished by automatic block signals, interlockings, train operation by signal indication, remote control, centralized traffic control, car retarders and highway crossing protection."

This report included references to 164 published articles on signaling in addition to 29 tables showing annual returns on signaling investments ranging from 10 to 141 per cent.

*See A. R. A. Signal Section Proceedings, May 1933, Pages 126-179.

UNION SWITCH & SIGNAL COMPANY
Swissvale, Pennsylvania

GENERAL RAILWAY SIGNAL COMPANY
Rochester, N. Y.

91

Signals Aid Modern Motive Power to Produce More Ton-Miles Per Train-Hour